

KENDRIYA VIDYALAYA SANGATHAN, BHUBANESWAR REGION
PRE- BOARD EXAMINATION (2025-26)
CLASS-XII
SUBJECT: ENGLISH CORE (301)

Maximum Marks: 80

Maximum Time allowed: 3 Hrs.

General Instruction:

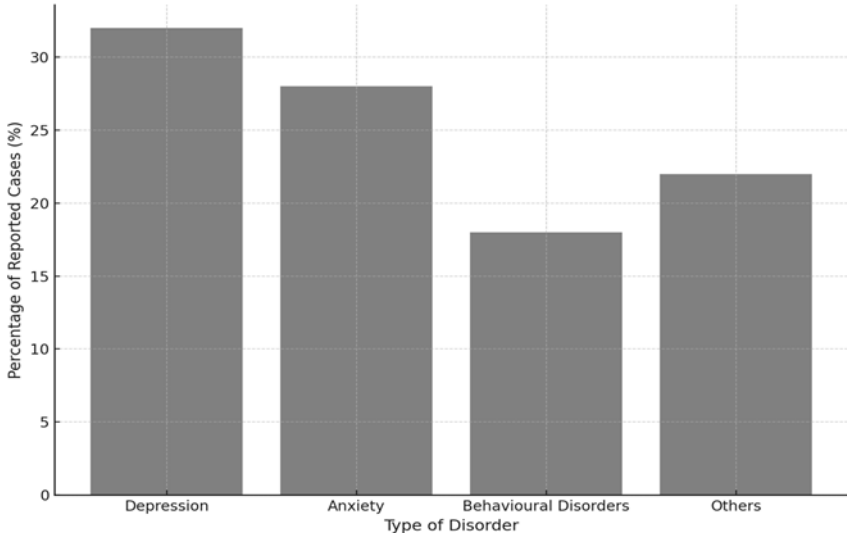
Read the following instructions very carefully and strictly follow them:

- (i) *This paper has 13 questions. All questions are compulsory.*
- (ii) *This question paper contains three sections - Section A: Reading Skills, Section B : Creative Writing and Section C : Literature*
- (iii) *Attempt all questions based on specific instructions for each part. Write the correct question number and part thereof in your answer sheet.*
- (iv) *Separate instructions are given with each question/ part, wherever necessary*
- (v) *Adhere to the prescribed word limit while answering the questions.*

SECTION A: READING SKILLS (22 marks)

1. Read the following passage and answer the questions that follow.		
1	When we think of the game of cricket, we come to the conclusion that it is primarily a game that depends on outstanding physical activities, good hand-eye co-ordination, speed, skill and strength. It provides entertainment and generates strong feelings of excitement. A good match of cricket or of any other game neither adds to the existing stock of human knowledge nor reveals any secret of existence. It does not carry any deep meaning but most people, particularly the lover of sports attach deep emotions and numerous meanings to it. Games are thought of as a metaphor for life. They are supposed to teach many lessons. In fact, more is said and written about a cricket match than about scientific findings or great philosophy.	
2	This is because games, like a morality play, in which settings and rules are made by us, can easily make people test their fair and foul conduct, principles of reward and punishment, and emotions of joy and disappointment. They can make us experience the thrill of war without exposing us to its dangers. A man watching a cricket match on T.V. and munching popcorn is like a surrogate warrior. In fact, games provide us with a safe outlet for our aggressiveness. If games become aggressive, they lose the very purpose of providing entertainment and purging us of our aggressiveness. They can calm our impatience without creating any conflict.	
3	Commentators, journalists, politicians and analysts can do a great favour to the competing teams by keeping the excitement within limits. The teams should play without being dominated by feelings of national honour and shame. Excellent performance of the players of both teams should be enjoyed and appreciated. Winning or losing in a game should not be taken seriously. A game is fun if it is played with true spirit of sportsmanship.	
	Based on your understanding of the passage, answer the questions given below :	12
(i)	Complete the sentence by choosing an appropriate option : Most people conclude that cricket is primarily a game because _____. (a) it is played as a match (b) it requires two teams (c) it includes physical activity, skill and coordination (d) it teaches deep philosophical lessons	1

(ii)	Comment on the writer's reference to the idea that cricket does not reveal any secret of existence.	2
(iii)	List two responses which watching a game of cricket gives rise to.	1
(iv)	Select the option that conveys the opposite of 'destroy' from words used in the passage. (a) reveals (b) experience (c) generate (d) purging	1
(v)	The writer would not agree with the given statements based on paragraph 2, EXCEPT (a) Rules of any game are made by people. (b) Watching a cricket match makes the viewer believe that he is fighting a battle (c) It is necessary for a game to be aggressive in order to build excitement. (d) A game can test people's sense of fair judgement.	1
(vi)	With reference to the passage, what does the phrase 'surrogate warrior' suggest about a spectator? Choose the option that best describes this phrase : (a) a spectator who is paid to watch. (b) a spectator who is in pain while watching the match. (c) a spectator who enjoys the match as an armchair soldier. (d) a spectator who makes judgement about reward and punishment.	1
(vii)	Why does the writer compare games to a morality play ?	2
(viii)	Complete the given sentence with an appropriate inference: The writer says that games can calm our impatience without creating any conflict by _____.	1
(ix)	The writer advises the players that games should not become aggressive because _____.	1
(x)	Select the most suitable title for the above passage. (a) Excellent Performance by Cricketers (b) The Benefits of Playing Cricket (c) Cricket – The King of Games (d) The True Spirit of Playing Games	1
2.	Read the passage given below :	10
(1)	Adolescent Mental Health — A Growing Global Concern (Adapted from WHO "Adolescent Mental Health Data Portal" & UNICEF India Country Report 2023) In the past decade, mental health has emerged as a central concern in global adolescent well-being. The World Health Organization (WHO) estimates that nearly one in every seven adolescents experiences a diagnosable mental disorder. The three most prevalent conditions are depression (32%), anxiety (28%), and behavioural disorders (18%), while other forms of emotional distress, such as eating disorders and substance dependence, make up about 22%. These figures, represented in the accompanying graph, illustrate the complex landscape of adolescent mental health and underline how emotional well-being remains under-addressed in most educational systems.	

(2)	<p>In India, the National Mental Health Survey (2023) conducted by the Ministry of Health and Family Welfare highlighted that 18% of students aged 13–18 reported persistent sadness or hopelessness during the past year. Alarming, only 22% of these students had ever reached out to a counsellor or a healthcare professional. This gap is particularly wide between urban and rural schools — with 70% of private schools offering at least one trained counsellor, while only 24% of government schools had such support systems. Rural adolescents remain especially vulnerable due to the dual challenge of limited access and social stigma surrounding mental illness.</p>											
(3)	<p>Experts note that adolescent mental distress often goes unnoticed because symptoms manifest subtly — through irritability, declining grades, or social withdrawal — rather than overtly dramatic behaviour. Parents, teachers, and peers frequently misinterpret such signs as laziness or disobedience. Compounding this is the social stigma attached to mental health conversations; students often fear judgment, ostracisation, or being labelled as “weak.”</p>											
(4)	<p>In the digital age, adolescents face a new dimension of psychological stress — cyberbullying, online comparison, and screen fatigue have intensified anxiety levels and body-image issues. While social media has created spaces for expression, it has also magnified insecurities. Psychologists emphasise that digital well-being should now be viewed as a part of mental health education.</p>											
	<div><p>Prevalence of Mental Health Disorders among Adolescents (Ages 13–18)</p><table border="1"><thead><tr><th>Type of Disorder</th><th>Percentage of Reported Cases (%)</th></tr></thead><tbody><tr><td>Depression</td><td>33</td></tr><tr><td>Anxiety</td><td>28</td></tr><tr><td>Behavioural Disorders</td><td>18</td></tr><tr><td>Others</td><td>22</td></tr></tbody></table></div>	Type of Disorder	Percentage of Reported Cases (%)	Depression	33	Anxiety	28	Behavioural Disorders	18	Others	22	
Type of Disorder	Percentage of Reported Cases (%)											
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(5)	<p>To address this growing crisis, WHO and UNICEF have urged governments to integrate mental-health literacy into the school curriculum, train teachers to identify early warning signs, and create peer-support networks. The introduction of toll-free helplines and mobile-based counselling platforms has shown promise in cities like Bengaluru and Delhi, where student-led awareness campaigns have increased help-seeking behaviour by nearly 40% within a year.</p>											

(6)	The findings reaffirm that mental health is not merely a personal concern but a social and educational imperative. Investing in mental well-being during adolescence means investing in a generation capable of empathy, resilience, and responsible citizenship.	
	On the basis of your understanding of the passage, answer the questions given below :	10
(i)	What are the three most common mental disorders among adolescents, as reported by global agencies?	1
(ii)	According to the graph, the highest percentage of reported mental health disorder among adolescents is for _____.	1
(iii)	Which group of students in India has less access to counsellors? A. Urban students B. Rural students C. Senior students D. University students	1
(iv)	The data reveals that only 22 percent of adolescents who experienced sadness sought help. What does this statistic suggest about students' attitudes or circumstances regarding mental-health support? (Answer in about 40 words.)	2
(v)	Fill in the blank suitably: The ministry of health's programme mainly focuses on _____ care rather than community and school prevention. (therapeutic/curative/emergency).	1
(vi)	Explain two reasons mentioned in the passage for why adolescent mental-health problems often go untreated. (Answer in about 40 words.)	2
(vii)	Choose the statement that is NOT addressed in the passage. A. Shortage of trained professionals B. Social stigma linked with mental illness C. Impact of physical exercise on mental health D. Lack of rural counselling services	1
(viii)	Suggest one school-based initiative that could help improve early detection of mental distress among students.	1
SECTION – B Creative Writing Skills (18 Marks)		
3	Attempt any ONE from (a) and (b) given below:	4
A	The Debating Society of your school is organising an inter-school debate. The last date for submitting names for audition is Friday 17th November. There will be on the spot trials. Draft a notice in about 50 words informing students about the team selection time, date and venue. You are Sarita / Sarit, President, Debating Society, Flora International School.	
	OR	
B	You are Aayush Nair, President of the Book Lovers' Club of your school. Your club is hosting a "Readathon 2025"—a 12-hour reading marathon—to raise funds for literacy drives. Draft a notice in about 50 words inviting students to register and contribute. Include necessary details.	
4	Attempt any one from (a) and (b) given below:	4

A	Send a formal letter of invitation in 50 words to Dr. Mehra, noted novelist and educationist, to speak on 'The Importance of Books'. You are Lena/Sanjay, Secretary Literary Club, S.S. Public School. Mention day, date, time and venue.	
	OR	
B	You have been invited by the Economics Society of Flora Public School for a panel discussion on 'Changing Economic Trends'. Due to sudden illness, you are unable to attend the event. Write a letter in 50 words expressing your inability to attend the programme. Mention day, date, time and venue. You are Dr. Rao.	
5	Attempt any ONE from (a) and (b) given below:	5
A	<p>The newspapers today have full page advertisements promoting luxury items. With increase in consumerism, people find it difficult to resist and soon find themselves trapped in a world of social one upmanship. Write a letter to the editor expressing your views on the consequences of this consumerism giving suggestions on how to control this habit. You are Renu/Rajan. Use the given cues along with your own ideas to compose this letter.</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Consequences</p> <ul style="list-style-type: none"> • trapped in a competitive world • social acceptability • living beyond budgets • mental trauma <p>Solutions</p> <ul style="list-style-type: none"> • responsible role of media • make informal decisions </div>	
	OR	
B	<p>Mitali Kedia sees the following advertisement and wishes to apply for the position advertised. Write a letter of application in 120 – 150 words along with a detailed bio-data.</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p style="text-align: center;">SKILL DEVELOPMENT INSTITUTE</p> <p>Requires Part-time Trainers for Computers / Car mechanics</p> <ul style="list-style-type: none"> • The applicant must be professionally qualified. • Must be competent in basic computer skills • Experience-minimum 5 years as trainer <p>Apply within 10 days to the Director, Skill Development Institute, Meerut.</p> </div>	
6	Attempt any ONE from (a) and (b) given below	5

A	<p>There is a shift from content based to skill based education. In addition to foundational subjects, interesting courses such as design, digital competency and entrepreneurship are being offered to students. This breaking away from conformity has brought out the latent potential in students as they are now selecting courses based on choice/interest, and talent. Write an article in 120 150 words expressing your views on the topic ‘Changing Trends in Education’. You may use the given input.</p> <table><tr><th colspan="2">CHANGING TRENDS IN EDUCATION</th></tr><tr><th>THEN</th><th>NOW</th></tr><tr><td>LIMITED SUBJECTS</td><td>DIVERSE SUBJECTS</td></tr><tr><td>RIGID SUBJECT STREAMS</td><td>INTEGRATED SYLLABUS</td></tr><tr><td>ACADEMIC FOCUS</td><td>INTEREST/APTITUDE FOCUS</td></tr><tr><td>ROTE LEARNING</td><td>TECHNOLOGY BASED</td></tr><tr><td>PEN AND PAPER</td><td>COMPETENCY BASE</td></tr></table>	CHANGING TRENDS IN EDUCATION		THEN	NOW	LIMITED SUBJECTS	DIVERSE SUBJECTS	RIGID SUBJECT STREAMS	INTEGRATED SYLLABUS	ACADEMIC FOCUS	INTEREST/APTITUDE FOCUS	ROTE LEARNING	TECHNOLOGY BASED	PEN AND PAPER	COMPETENCY BASE	
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B	<table><tr><th>REVIVE PLAYTIME</th></tr><tr><td><ul style="list-style-type: none">• Shapes better personalities• Builds physical and mental health• Develops life skills• Keeps them in touch with nature</td></tr></table> <p>You are Jessica/John, a budding journalist for a local daily. You covered an event named ‘The Vanishing Joy of childhood’. The event was attended by students and teachers of different schools. The group discussions were on how playing makes children fitter, unstructured playing vs. high-tech toys, and how spontaneous group play helps build life skills. Write a report in 120 -150 words for the local daily on the event. You may use the above given input.</p>	REVIVE PLAYTIME	<ul style="list-style-type: none">• Shapes better personalities• Builds physical and mental health• Develops life skills• Keeps them in touch with nature													
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<ul style="list-style-type: none">• Shapes better personalities• Builds physical and mental health• Develops life skills• Keeps them in touch with nature																
SECTION C Literature (40 Marks)																
7	Attempt <u>any one</u> of the two extracts (A) and (B) given below	1 x 6 =6														
(A)	<p>Read the following extract and answer the questions that follow:</p> <p><i>In front at the edge of the road where the traffic sped, A roadside stand too pathetically pled, I t would not be fair to say for a dole of bread, But for some of the money, the cash, whose flow supports The flower of cities from sinking and withering faint. The polished traffic passed with a mind ahead, Or if ever aside a moment, then out of sorts At having the landscape marred with the artless paint Of signs that with N turned wrong and S turned wrong</i></p>															
(i)	<p>What is the tone of the poet in the extract? Choose the correct option: (a) optimistic (b) resigned (c) sympathetic (d) indifferent</p>	1														

(ii)	With reference to the given extract, what harm has been caused by the 'artless paint'	1
(iii)	The city is compared to _____. (a) a landscape (b) signs of N and S (c) a flower (d) a dole of bread	1
(iv)	Choose the correct option: The roadside stand is (a) at the edge of the road. (b) marred with artless paint. (c) like the flower of cities. (d) well maintained.	1
(v)	What type of expectations do the stand owners have from the city dwellers who come there?	1
(vi)	Complete the analogy with a word from the given extract. donate: contribute:: dying: _____	1
	OR	
(B)	Read the following extract and answer the questions that follow : <i>Aunt Jennifer's tigers prance across a screen, Bright topaz denizens of a world of green, They do not fear the men beneath the tree; They pace in sleek chivalric certainty. Aunt Jennifer's fingers fluttering through her wool Find even the ivory needle hard to pull. The massive weight of uncle's wedding band Sits heavily upon Aunt Jennifer's hand.</i>	
(i)	Denizens of the world of green refer to _____. (a) huntsmen (b) Aunt Jennifer (c) uncle (d) tigers	1
(ii)	Choose the option that displays the same poetic device as used in the second line of the extract. (a) heart of stone (b) trees sprouting (c) silver spoon (d) white murder	1
(iii)	The men setting beneath the tree are _____.	1
(iv)	What quality of uncle can be inferred through these lines ? (a) compassionate nature (b) courageous (c) confident (d) dominating	1
(v)	The tigers in the extract are symbolic of (a) confidence and courage (b) confidence and gentleness (c) cruelty and fear (d) aggression and courage	1
(vi)	Aunt Jennifer's tigers prance across (1) the screen (2) the fields (3) the embroidered tunic (4) the cage Which of the following is the most appropriate choice? (a) (1) and (2) (b) (2) and (4) (c) (1), (2) and (3) (d) (1) and (3)	1

8	Read the following extract and answer the questions that follow. Attempt any ONE	1 x 4 =4
(A)	<i>"Because we are born into this community, we are never given any honour or dignity or respect; we are stripped of all that. But if we study and make progress, we can throw away these indignities. So study with care, learn all you can. If you are always ahead in your lessons, people will come to you of their own accord and attach themselves to you. Work Hard and Learn"</i>	
(i)	Who is the speaker? Who is he speaking to? (a) Appa; Bama (b) Bama; Amma (c) Bama; The Zamindar (d) Annan; Bama	1
(ii)	Select the option that best describes the speaker in the above extract : I. marginalized II. practical III. idealistic IV. curious V. aggressive Select the most appropriate option : (a) I and II (b) III and IV (c) II and IV (d) IV and V	1
(iii)	Complete the following statement with reference to the community : The treatment meted out to the community was _____.	1
(iv)	Which of the following summarises the author's opinion about study ? (a) Childhood should be spent in experiential learning. (b) Studying is better than playing (c) Studying is essential for the nation's development (d) Studying leads to social reforms and progress	1
	OR	
(B)	<i>Mr. Lamb: Well that needn't stop you, you needn't mind. Derry: It'd stop them. They'd mind me. When they saw me here. They look at my face and run. Mr. Lamb: They might. They might not. You'd have to take the risk. So would they. Derry: No, you would, you might have me and lose all your other friends, because nobody wants to stay near me if they can help it. Mr. Lamb: I've not moved. Derry: No Mr. Lamb: When I go down the street, the kids shout 'Lamey Lamb'. But they still come into the Garden, into my house; it's a game. They're not afraid of me. Why should they be ? Because I'm not afraid of them, that's why not.'</i>	
(i)	The kids tease Mr. Lamb but still come into his garden. Why ?	1
(ii)	Choose the best option that describes Mr. Lamb. (a) headstrong (b) pessimist (c) negligent (d) positive	1

(iii)	Choose the correct option with reference to the extract : What makes Derry tell Mr. Lamb that if he comes, others would stop coming ? (a) Mr. Lamb would not let others come. (b) They would be repulsed by Derry. (c) Mr. Lamb will have to choose between him and others. (d) Derry would flare up	1
(iv)	What does Mr. Lamb mean by 'They might, they might not' ?	1
9	Attempt <u>any ONE</u> of two extracts given :	1 x 6 =6
(A)	<i>"I sometimes find a rupee, even a ten rupee note", Saheb says, his eyes lighting up when you can find a silver coin in a heap of garbage, you don't stop scrounging, for there is hope of finding more. It seems that for children, garbage has a meaning different from what it means to their parents. For the children it is wrapped in wonder, for the elders it is a means of survival. One winter morning I see Saheb standing by the fenced gate of the neighbourhood club, watching two young men dressed in white, playing tennis. "I like the game", he hums, content to watch it standing behind the fence. "I go inside when no one is around" he admits. "The gate keeper lets me use the swing."</i>	
(i)	What does the metaphor of the "fenced gate" in the passage most likely symbolize in Saheb's life? A) A barrier that protects him from danger B) A division between his dreams and the reality he lives in C) A place where he likes to relax and play D) A boundary set by his parents to keep him away from strangers	1
(ii)	Which emotion of Saheb is revealed in the phrase 'his eyes lighting up' ? (a) anxiety (b) envy (c) happiness (d) greed	1
(iii)	For the elder's garbage is _____ and for children it is _____.	1
(iv)	On the basis of the extract, choose the correct option with reference to I and II given below: I. Saheb watches the game from outside. II. Saheb had lost the previous match. (a) I is true but II is not (b) II is true but I is not (c) Both I and II are true (d) Both I and II are untrue	1
(v)	(v) 'Scrounging' in the passage most nearly means. (a) digging (b) searching (c) flinging (d) burying	1
(vi)	(vi) 'There is hope for finding more'. Explain with reference to the above extract.	1
	OR	

(B)	<p><i>“Or an actress. Now there’s real money in that. Yes, and I could may be have the boutique on the side. Actresses don’t work full time, do they? Anyway, that or a fashion designer. You know –something a bit sophisticated”. And she turned in through the open street door leaving Jansie standing in the rain. “If I ever come into money, I’ll buy a boutique”. “Huh, if you ever come into money ... if you ever come into money, you’ll buy us a blessed decent house to live in, thank you very much.” Sophie’s father was scooping shepherd’s pie into his mouth as hard as he could go, his plump face still grimy and sweat – marked from the day. “She thinks money grows on trees, don’t she Dad? Said little Derek, hanging on the back of his father’s chair.</i></p> <p><i>Their mother sighed.</i></p>	
(i)	<p>Sophie wants to become an actress to</p> <p>(a) become famous (b) to earn money</p> <p>(c) to support her father (d) to compete with Jansie</p>	1
(ii)	<p>Sophie’s father wanted Sophie to spend her money on</p> <p>(a) her marriage (b) her career</p> <p>(c) to open a boutique (d) buying a house</p>	1
(iii)	Sophie is daydreaming about _____.	1
(iv)	The phrase ‘She thinks money grows on trees’ suggests that Sophie _____.	1
(v)	<p>Sophie’s mother’s sigh is one of</p> <p>(a) regret (b) delight</p> <p>(c) relief (d) helplessness</p>	1
(vi)	<p>Read the assertion and the reason below, with reference to the given extract.</p> <p>Assertion (A): Sophie dreams of becoming rich and leading a glamorous life.</p> <p>Reason (R): She wants to open a boutique or become an actress or fashion designer.</p> <p>Choose the correct option regarding their relationship:</p> <p>(a) Both A and R are true, and R is the correct explanation of A.</p> <p>(b) Both A and R are true, but R is not the correct explanation of A.</p> <p>(c) A is true, but R is false.</p> <p>(d) A is false, but R is true.</p>	1
10	Answer <u>any FIVE</u> out of six questions given below in about 40-50 words:	5 × 2 = 10
a)	Why was the peddler hesitant to accompany the ironmaster to the manor house? (The Rattrap)	
b)	What are the feelings of the poet about her aged mother with reference to the poem ‘My Mother at Sixty-Six’?	
c)	Elaborate the ‘conflict of duties’ faced by Gandhiji.	
d)	How did Umberto Eco display his innovative style in the presentation of his dissertation ? (The Interview)	
e)	What handicap did Doughlas suffer from? How did he overcome that? (Deep Water)	
f)	What according to Pablo Neruda in the poem ‘Keeping Quiet’ is the lesson that we should learn from mother earth?	
11	Answer <u>any TWO</u> in about 40-50 words :	2 × 2 = 4

a)	What did the astrologers predict about the child when he was born? (The Tiger King)	
b)	Give the reason for Geoff Green's decision to involve young students in his programme. (Journey to the end of the Earth)	
c)	What was the dilemma faced by Sadao on seeing the prisoner of war ? (The Enemy)	
12	Answer <u>any ONE</u> in about 120-150 words :	5
a)	"Sophie is an escapist and a dreamer, while Franz often misses school. Analyze how their attitudes towards life affect the outcomes for each character."	
	OR	
b)	Both Neruda and Keats encourage humankind to pause — Neruda through silence and self-awareness, and Keats through the appreciation of beauty. Discuss how these poems advocate introspection as a means to achieve inner harmony, suggesting that the remedy for chaos and despair lies not in action, but in conscious stillness and a renewed perception of beauty.	
13	Answer <u>any ONE</u> in about 120-150 words:	5
a)	Both Derry and Dr. Sadao faced rejection — one for his appearance, the other for his decision to help an enemy. Yet, both characters challenge societal prejudice through human empathy. Evaluate how these stories illustrate that understanding another person's pain can dissolve barriers more powerful than reason or law.	
	OR	
b)	The modern world is full of insecurity, fear, war, worry and stress. Do you think that the third level was a medium of escape for Charley in the Third Level? What are the ways in which we attempt to overcome such insecurities?	

KENDRIYA VIDYALAYA SANGATHAN, BHUBANESWAR REGION

PRE-BOARD EXAMINATION (2025-26)

CLASS-XII

SUBJECT: HINDI CORE (302)

Maximum Marks : 80

Time Allowed : 3 Hours

सामान्य और आवश्यक निर्देश :-

1. इस प्रश्न पत्र में तीन खंड हैं- खंड 'क', खंड 'ख' और खंड 'ग' ।
2. खंड - 'क' में अपठित बोध पर आधारित प्रश्न पूछे गए हैं। सभी प्रश्नों के उत्तर देना अनिवार्य है।
3. खंड - 'ख' में पाठ्यपुस्तक 'अभिव्यक्ति और माध्यम' से प्रश्न पूछे गए हैं। प्रश्नों के आंतरिक विकल्प दिये गए हैं।
4. खंड - 'ग' में पाठ्यपुस्तक 'आरोह' और 'वितान' से प्रश्न पूछे गए हैं। प्रश्नों के आंतरिक विकल्प दिये गए हैं।
5. तीनों खंडों के उत्तर देना अनिवार्य है।
6. यथासंभव तीनों खंडों के प्रश्नों के उत्तर क्रमशः लिखिए।

खंड-क

प्रश्न 1. निम्नांकित गद्यांश पर आधारित दिये गए प्रश्नों के उत्तर दीजिये :

लोकतन्त्र के मूलभूत तत्व को समझा नहीं गया है और इसलिए लोग समझते हैं कि सब कुछ सरकार कर देगी, हमारी कोई ज़िम्मेदारी नहीं है। लोगों में अपनी पहल से ज़िम्मेदारी उठाने और निभाने का संस्कार विकसित नहीं हो पाया है। फलस्वरूप देश की विशाल मानव शक्ति अभी खरटे लेती पड़ी है और देश की पूंजी उपयोगी बनने के बदले आज बोझ रूप बन बैठी है। लेकिन उसे नींद से झकझोर कर जागृत करना है। किसी भी देश को महान बनाते हैं उसमें रहने वाले लोग। लेकिन अभी हमारे देश के नागरिक अपनी ज़िम्मेदारी से बचते रहे हैं। चाहे सड़क पर चलने की बात हो अथवा साफ-सफाई की बात हो, जहाँ- तहाँ हम लोगों को गंदगी फैलाते और बेतरतीब ढंग से वाहन चलाते देख सकते हैं। फिर चाहते हैं कि सरकार सब कुछ ठीक कर दे।

सरकार ने बहुत सारे कार्य किए हैं, इसे अस्वीकार नहीं किया जा सकता है। वैज्ञानिक प्रयोगशालाएँ खोली हैं, विशाल बाँध बनवाएँ हैं, फौलाद के कारखाने खोले हैं आदि बहुत सारे काम सरकार के द्वारा हुए हैं। पर अभी करोड़ों लोगों को कार्य में प्रेरित नहीं किया जा सका है। वास्तव में होना तो यह चाहिए कि लोग अपनी सूझ-बूझ के साथ अपनी आंतरिक शक्ति के बल पर खड़े हों और अपने पास जो भी साधन- सामग्री हो उसे लेकर कुछ करना शुरू कर दें और फिर सरकार उसमें आवश्यक मदद करे। उदाहरण के लिए गाँव वाले बड़ी-बड़ी पंचवर्षीय योजनाएँ नहीं समझ सकेंगे, पर वे लोग यह बात जरूर समझ सकेंगे कि अपने गाँव में कहाँ कुआँ चाहिए, कहाँ सिंचाई की जरूरत है, कहाँ पुल की आवश्यकता। बाहर के लोग इन सब बातों से अनभिज्ञ होते हैं।

(क) लोगों में कर्तव्यपालन की भावना क्यों नहीं है?

1

- अ. लोग इसे सरकार की ज़िम्मेदारी मानते हैं ।
स. लोग कर्तव्य के बारे में नहीं जानते ।

- ब. लोग इसे अपनी ज़िम्मेदारी मानते हैं।
द. सभी विकल्प सही हैं ।

(ख) निम्न कथनों पर विचार करें-

1

- i. लोकतन्त्र का मूल तत्व लोगों की समस्त कार्यों में सीधी भागीदारी है।
- ii. लोकतन्त्र में केवल सरकार लोगों के प्रति उत्तरदायी है।
- iii. लोकतन्त्र में लोगों की अप्रत्यक्ष भूमिका है।
- iv. लोगों में लोकतन्त्र की समझ तथा संकल्पना स्पष्ट नहीं है।

- अ. केवल कथन (i) सही है।
ब. केवल कथन (ii) सही है।
स. कथन (i),(ii) तथा (iii) तीनों सही हैं।
द. कथन (i) और (iv) दोनों सही हैं।

(ग) निम्नलिखित कथन तथा कारण को ध्यानपूर्वक पढ़कर सर्वाधिक उपयुक्त विकल्प का चयन कीजिये।

कथन (A) : देश की मानव-शक्ति सुषुप्तावस्था में है।

कारण (R) : देश की जनता में बदलाव हेतु कार्य करने की भावना का अभाव दिखाई पड़ता है।

- अ. कथन (A) तथा कारण (R) दोनों सही हैं तथा कारण कथन की सही व्याख्या करता है।
ब. कथन (A) गलत है लेकिन कारण (R) सही है।
स. कथन (A) तथा कारण (R) सही हैं।
द. कथन (A) सही है लेकिन कारण (R) उसकी गलत व्याख्या करता है।

(घ) सरकारी व्यवस्था में किस कमी की ओर लेखक ने संकेत किया है?

1

(ङ) गद्यांश के अनुसार लोगों की कौन सी शक्ति को बढ़ाना है? क्यों?

2

(च) समाज कैसे विकसित हो सकता है?

2

(छ) बाहर के लोग किन बातों से अनभिज्ञ होते हैं?

2

प्रश्न 2. निम्नांकित पद्यांश पर आधारित प्रश्नों के उत्तर दीजिये :

सूख रहा है समय
इसके हिस्से की रेत
उड़ रही है आसमान में
सूख रहा है
आँगन में रखा पानी का गिलास
पंखुड़ी की साँस सूख रही है
जो सुंदर चोंच मीठे गीत सुनाती थी
हर पौधा सूख रहा है
हर नदी इतिहास हो रही है
हर तालाब का सिमट रहा है कोना
यही मनुष्य का कंठ सूख रहा है
वह जेब से निकालता है पैसे और
खरीद रहा है बोतल बंद पानी
बाकी जीव क्या करेंगे अब
न उनके पास जेब है और न बोतल बंद पानी।

(क) हर नदी के इतिहास होने का क्या तात्पर्य है?

1

- अ. नदी इतिहास में थी। ब. नदियों का अस्तित्व समाप्त हो रहा है।
स. नदियों में पानी कम बहता है। द. नदियों का बहाव अधिक है।

- (ख) “सूख रहा है समय” कथन का आशय क्या है? 1
अ. अभी समय बहुत है। ब. समय सूखने लगा है।
स. समय समाप्त हो रहा है। द. जीवन-मूल्य समाप्ति के कगार पर है।
- (ग) निम्नलिखित कथन और कारण को ध्यानपूर्वक पढ़कर सर्वाधिक उपयुक्त विकल्प का चयन कीजिये। 1
कथन (A) पंखुड़ी की साँस सूख रही है जो सुंदर चोंच मीठे गीत सुनाती थी।
कारण (R) प्राकृतिक स्रोतों का तेजी से हास हो रहा है।
अ. कथन (A) तथा कारण (R) दोनों सही हैं तथा कारण कथन की सही व्याख्या करता है।
ब. कथन (A) गलत है लेकिन कारण (R) सही है।
स. कथन (A) तथा कारण (R) सही हैं।
द. कथन (A) सही है लेकिन कारण (R) उसकी गलत व्याख्या करता है।
- (घ) कवि के दर्द का क्या कारण है? 1
- (ङ) ‘बाकी जीव क्या करेंगे अब’ कथन में निहित व्यंग्य क्या है? 2
- (च) काव्यांश का भाव अपने शब्दों में लिखें। 2

खंड-ख

प्रश्न 3. निम्नलिखित दिये गए विषयों में से किसी एक विषय पर लगभग 120 शब्दों में रचनात्मक लेख लिखिए : 6

- अ. गुम होता बचपन
ब. चुनावी वादे और सच्चाई
स. अभिव्यक्ति की स्वतन्त्रता

प्रश्न 4. निम्नांकित प्रश्नों में से किन्हीं चार प्रश्नों के उत्तर लगभग 40 शब्दों में दीजिये: $2 \times 4 = 8$

- (i) विशेष लेखन क्या है? उदाहरण सहित लिखिए।
(ii) रेडियो नाटक तथा सामान्य नाटक में क्या अंतर है?
(iii) नए और अप्रत्याशित विषयों पर लेखन हमारी रचनात्मकता को बढ़ाती है, कैसे?
(iv) फीचर लेखन की विशेषताओं को लिखिए।
(v) संपादकीय लेखन से क्या समझते हैं?

प्रश्न 5. निम्नांकित में से किन्हीं दो प्रश्नों के उत्तर लगभग 80 शब्दों में दीजिये: 4 x 2 = 8

- (i) टेलीविज़न समाचार के चरण ‘ड्राई एंकर’ और ‘फोन इन’ के बारे में बताइए।
(ii) समाचार की उल्टा पिरामिड शैली से आप क्या समझते हैं?
(iii) पत्रकार किसे कहते हैं? पत्रकार के विभिन्न प्रकार को संक्षेप में समझाइए।

खंड-ग

प्रश्न 6. निम्नलिखित पठित काव्यांश पर आधारित प्रश्नों के लिए सर्वाधिक उपयुक्त विकल्प चुनकर लिखिए :

1 x 5 = 5

हँसते हैं छोटे पौधे लघुभार
शस्य अपार,
हिल - हिल
खिल - खिल
हाथ हिलाते,
तुझे बुलाते
विप्लव रव से छोटे ही हैं शोभा पाते।
अट्टालिका नहीं है रे
आतंक भवन
सदा पंक पर ही होता
जल- विप्लव- प्लावन
क्षुद्र प्रफुल्ल जलज से
सदा छलकता नीर
रोग-शोक में भी हँसता है
शैशव का सुकुमार शरीर
रुद्ध कोष है, क्षुब्ध तोष
अंगना अंग से लिपटे भी
आतंक अंक पर काँप रहे हैं
धनी, वज्र-गर्जन से बादल
त्रस्त नयन मुख ढाँप रहे हैं।

(क) 'विप्लव रव से छोटे ही हैं शोभा पाते'- यहाँ 'छोटे' शब्द प्रयुक्त हुआ है-

1

- अ. शोषित वर्ग के लिए ब. शोषक वर्ग के लिए
स. मध्यम वर्ग के लिए द. उच्च वर्ग के लिए

(ख) जल- विप्लव प्लावन किस पर होता है?

1

- अ. जलज पर ब. नौका पर स. कीचड़ पर द. नभ पर

(ग) कवि ने अट्टालिकाओं को क्या कहा है?

1

- अ. राजमहल ब. सभा भवन स. व्यायामशाला द. आतंक भवन

(घ) निम्नांकित कथन और कारण को ध्यानपूर्वक पढ़कर सर्वाधिक उपयुक्त विकल्प चुनकर लिखिए। 1

कथन (A) शोषित वर्ग बादल अर्थात् क्रांति का आह्वान करता है।

कारण (R) शोषक वर्ग अट्टालिकाओं में जनता के लिए षड्यंत्र रचते हैं।

- अ. कथन (A) सही है और कारण (R) गलत है।
ब. कथन (A) गलत है और कारण (R) सही है।
स. कथन (A) सही है और कारण (R) कथन (A) की सही व्याख्या करता है।
द. कारण (R) गलत है।

(ड) विप्लव का वीर कौन है और उसे कौन बुलाता है?

1

- अ. बादल, और उसे व्याकुल मजदूर बुलाता है
- ब. क्रांतिकारी, और उसे व्याकुल कृषक बुलाता है
- स. बादल, उसे व्याकुल कृषक बुलाता है
- द. उपर्युक्त में से कोई नहीं

प्रश्न 7. निम्नांकित प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर लगभग 60 शब्दों में दीजिये : 3 x 2 = 6

(क) बात और भाषा परस्पर जुड़े होते हैं, किन्तु कभी-कभी भाषा के चक्कर में सीधी बात भी टेढ़ी हो जाती है। कैसे?

(ख) 'परदे पर वक्त की कीमत है'- कहकर कवि ने पूरे साक्षात्कार के प्रति अपना नजरिया किस रूप में रखा है?

(ग) 'उषा' कविता गाँव की सुबह का गतिशील शब्द-चित्र है- सोदाहरण स्पष्ट कीजिये।

प्रश्न 8. निम्नांकित प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर लगभग 40 शब्दों में दीजिये: 2 x 2 = 4

(क) पतंगों के साथ-साथ वे भी उड़ रहे हैं- बच्चों का उड़ान से कैसा संबंध बनता है?

(ख) शोकग्रस्त माहौल में हनुमान जी के अवतरण को करुण रस के बीच वीर रस का आगमन क्यों कहा गया है?

(ग) 'आत्मपरिचय' में कवि के कथन 'शीतल वाणी में आग लिए फिरता हूँ'- का विरोधाभास स्पष्ट करें।

प्रश्न 9. निम्नलिखित गद्यांश पर आधारित प्रश्नों के लिए सही विकल्प चुनिये : 1 x 5 = 5

बाज़ार में एक जादू है। वह जादू आँख की राह काम करता है। वह रूप का जादू है। पर जैसे चुंबक का जादू लोहे पर ही चलता है, वैसे ही इस जादू की भी मर्यादा है। जेब भरी हो और मन खाली हो, ऐसी हालत में बाज़ार का असर खूब होता है। जेब खाली पर मन भरा न हो तो भी जादू चल जाएगा। मन खाली है, तो बाज़ार की अनेकानेक चीजों का निमंत्रण उस तक पहुँच जाएगा। कहीं हुई उस वक्त जेब भरी, तब तो वह मन किसकी मानने वाला है। मालूम होता है यह भी लूँ, वह भी लूँ। सभी सामान जरूरी और आराम को बढ़ाने वाला मालूम होता है। पर यह सब जादू का असर है। जादू की सवारी उतरी कि पता चलता है कि फ्रैन्सी चीजों की बहुतायत आराम में मदद नहीं देती, बल्कि खलल ही डालती हैं। थोड़ी देर को स्वाभिमान को जरूर सेंक मिल जाती है पर इससे अभिमान की गिल्टी को और खुराक ही मिलती है।

(क) लेखक के अनुसार बाज़ार के जादू की क्या मर्यादा है?

- अ. वह केवल उन लोगों पर असर करता है, जिनके मन खाली होते हैं।
- ब. वह केवल उन लोगों पर असर करता है, जो वस्तु खरीदने आते हैं।
- स. वह केवल अमीर लोगों पर असर करता है।
- द. वह केवल गरीब लोगों पर असर करता है।

(ख) बाज़ारवाद को कौन बढ़ावा देता है?

- अ. मन का खालीपन
- ब. मन का भरा होना
- स. जेब का खालीपन
- द. मन का बंद होना

(ग) बाज़ार का जादू उतरने पर क्या पता चलता है?

- अ. आकर्षक चीजें उपयोगी होती हैं।

ब. आकर्षित करनेवाली चीजें हमारे जीवन में महत्व नहीं रखती हैं ।

स. आकर्षित करनेवाली चीजें स्वाभिमान को बचाती हैं ।

द. आकर्षण ही व्यक्ति को जीना सिखाता है ।

(घ) निम्नांकित कथन-कारण को ध्यानपूर्वक पढ़कर दिये गए विकल्पों में से सही विकल्प चुनिये :

कथन (A) बाज़ार का जादू उतरने पर वस्तु खरीदने की व्यर्थता का पता चलता है।

कारण (R) बाज़ार का जादू आँखों के माध्यम से हमें आकर्षित करता है।

अ. कथन (A) तथा कारण (R) दोनों सही हैं तथा कारण कथन की सही व्याख्या करता है।

ब. कथन (A) गलत है तथा कारण (R) सही है।

स. कथन (A) तथा कारण (R) दोनों गलत हैं।

द. कारण (R) कथन (A) की गलत व्याख्या करता है।

(ङ) गद्यांश के आधार पर निम्नांकित कथनों पर विचार करें -

i. सभी आकर्षित करने वाली वस्तुएँ उपयोगी होती हैं।

ii. बाज़ार का जादू उसके रूप का जादू है।

iii. बाज़ार का जादू टूटने पर व्यक्ति को अफसोस होता है।

iv. वस्तुओं को खरीदने से तात्कालिक रूप से व्यक्ति को आत्मसंतोष प्राप्त होता है।

उपर्युक्त कथनों में से कौन-सा/ कौन-से कथन सत्य है/हैं?

अ. (i) और (ii)

ब. (iii) और (iv)

स. सभी कथन सत्य हैं ।

द. (i) को छोड़कर सभी कथन सत्य हैं ।

प्रश्न 10. निम्नांकित प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर लगभग 60 शब्दों में दीजिये: $2 \times 3 = 6$

(क) भक्तिन के तीन चारित्रिक दुर्गुण बताइए।

(ख) लुट्टन पहलवान की बाल्यावस्था का परिचय दीजिये।

(ग) जाति-प्रथा को श्रम विभाजन का ही एक रूप न मानने के पीछे अंबेडकर जी के क्या तर्क हैं ?

प्रश्न 11. निम्नांकित प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर लगभग 40 शब्दों में दीजिये: $2 \times 2 = 4$

(क) हजारी प्रसाद द्विवेदी जी ने शिरीष की तुलना किस महान व्यक्तित्व से की है और क्यों?

(ख) बाबा साहब अंबेडकर ने आदर्श समाज के लिए किन तीन तत्वों को आवश्यक माना है? स्पष्ट करें।

(घ) इंदर सेना पर पानी फेंके जाने को लेखक अंधविश्वास कहता है परंतु जीजी किन तर्कों से उसे खंडित करती है? स्पष्ट कीजिये।

प्रश्न 12. निम्नांकित प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर लगभग 60 शब्दों में दीजिये: $2 \times 5 = 10$

(क) 'सिल्वर वैडिंग' पाठ के आधार पर बताइए कि जीवन - मूल्य समय के साथ बदल रहे हैं।

(ख) 'जूझ' कहानी के कहानीकार के शिक्षित होने के संघर्ष में दत्ता जी राव देसाई के योगदान को स्पष्ट कीजिये।

(ग) लेखक ने मुअनजोदड़ो की नगर योजना की तुलना आज के नगरों से किस प्रकार की है?

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KENDRIYA VIDYALAYA SANGTHAN, BHUBANESWAR REGION

PRE – BOARD EXAMINATION (2025-26)

CLASS: XII

Subject: MATHEMATICS

Maximum Marks = 80

Maximum Time Allowed = 3 Hours

General Instructions: Read the following instructions very carefully and strictly follow them:


- (i) This Question paper contains 38 questions. All questions are compulsory.
- (ii) This Question paper is divided into five Sections - A, B, C, D and E.
- (iii) In Section A, Questions no. 1 to 18 are multiple choice questions (MCQs) and Questions no. 19 and 20 are Assertion-Reason based questions of 1 mark each.
- (iv) In Section B, Questions no. 21 to 25 are Very Short Answer (VSA)-type questions, carrying 2 marks each.
- (v) In Section C, Questions no. 26 to 31 are Short Answer (SA)-type questions, carrying 3 marks each.
- (vi) In Section D, Questions no. 32 to 35 are Long Answer (LA)-type questions, carrying 5 marks each.
- (vii) In Section E, Questions no. 36 to 38 are Case study-based questions, carrying 4 marks each.
- (viii) There is no overall choice. However, an internal choice has been provided in 2 questions in Section B, 3 questions in Section C, 2 questions in Section D and one subpart each in 2 questions of Section E.

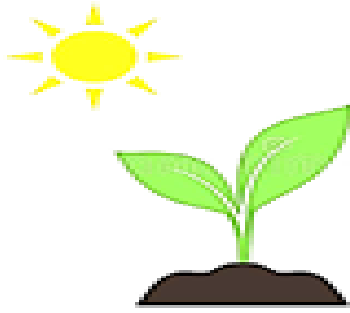
S.NO.	SECTION A	Marks
1	The domain of the function $y = \sin^{-1}(-x^2)$ is (A) $[0, 1]$ (B) $(0, 1)$ (C) $[-1, 1]$ (D) $[-1, 0]$	1
2	If $A = \begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$. Then A^{100} is . (A) $100A$ (B) $99A$ (C) $2^{99}A$ (D) $2^{100}A$	1
3	Total number of possible matrices of order 3×3 with diagonal entries are ± 2 and non - diagonal entries are -1, 0 and 1 (A) 2^9 (B) 3^9 (C) 2^33^6 (D) 2^63^3	1
4	If $\begin{vmatrix} 6i & -3i & 1 \\ 4 & 3i & -1 \\ 20 & 3 & i \end{vmatrix} = x+iy$, where $i = \sqrt{-1}$, then $(x,y) =$ (A) $(2, 3)$ (B) $(0, 3)$ (C) $(3, 1)$ (D) $(0, 0)$	1
5	If $A(\alpha) = \begin{bmatrix} \cos\alpha & \sin\alpha \\ -\sin\alpha & \cos\alpha \end{bmatrix}$, then the matrix $A^2(\alpha)$ is equal to A. $A(2\alpha)$ B. $A(\alpha)$ C. $A(3\alpha)$ D. $A(4\alpha)$	1

6	If $A = \begin{bmatrix} 1 & 2 \\ 4 & 2 \end{bmatrix}$. Then $ 2A $ is. (A) $2 A $ (B) $4 A $ (C) $8 A $ (D) $8 A $	1
7	If $x = t^2$ and $y = t^3$ then $\frac{d^2y}{dx^2}$ (A) $\frac{3}{2}$ (B) $\frac{3t}{2}$ (C) $\frac{3}{4t}$ (D) $\frac{3}{2t}$	1
8	The maximum value of $f(x) = \sin x \cdot \cos x$ is A. $\frac{1}{2}$ B. $\frac{-1}{2}$ C. 0 D. 5	1
9	The value of integration $\int e^x \sec x (1 + \tan x) dx$ is (A) $e^x \cos x + c$ (B) $e^x \sec x + c$ (C) $e^x \sin x + c$ (D) $e^x \tan x + c$	1
10	If $\int_0^a f(2a - x) dx = m$ and $\int_0^a f(x) dx = n$, then $\int_0^{2a} f(x) dx$ is equal to (A) $2m + n$ (B) $m + 2n$ (C) $m - n$ (D) $m + n$	1
11	The area bounded by $y = \log x$, x-axis and ordinates $x = 1$, and $x = 2$ is (A) $\log 2$ (B) $\log(2/e)$ (C) $\log(4/e)$ (D) $\log 4$	1
12.	The integrating factor of the differential equation : $(x \log x) \frac{dy}{dx} + y = 2 \log x$ is: (A) e^x (B) $\log x$ (C) $\log(\log x)$ (D) x	
13	The order and degree of the differential equation $\left\{1 + 10 \left(\frac{dy}{dx}\right)^2\right\}^{\frac{5}{2}} = \frac{d^3y}{dx^3}$ are p and q respectively, then relation between p and q are (A) $p = 3q$ (B) $2p = 3q$ (C) $3p = 2q$ (D) $3p = q$	1
14	If $ \vec{a} = 2$, $ \vec{b} = 7$ and $\vec{a} \times \vec{b} = 3\hat{i} + 2\hat{j} + 6\hat{k}$, then the angle between \vec{a} and \vec{b} . (A) $\frac{5\pi}{6}$ (B) $\frac{2\pi}{3}$ (C) $\frac{\pi}{3}$ (D) $\frac{\pi}{6}$	1
15	If \vec{a} , \vec{b} and \vec{c} are mutually perpendicular unit vectors, then the value of $ \vec{2a} + \vec{b} + \vec{c} ^2$ (A) -6 (B) 6 (C) ± 6 (D) $\sqrt{6}$	1
16	An objective function of a linear programming problem is (A) a constraint (B) a function to be optimized (C) a relation between the variables (D) none of these	1
17	Which of the points is not a corner point of this problem: Max $z = x + y$ subject to the constraints $2x + y \leq 50$, $x + 2y \leq 40$, $x \geq 0$, $y \geq 0$. (A) (3, 4) (B) (0, 0) C. (0, 20) (D) (25, 0)	1
18	If A and B are any two events such that $P(A) + P(B) - P(A \cap B) = P(A)$ then (A) $P\left(\frac{B}{A}\right) = 1$ (B) $P\left(\frac{B}{A}\right) = 0$ (C) $P\left(\frac{A}{B}\right) = 1$ (D) $P\left(\frac{A}{B}\right) = 0$	1
ASSERTION & REASON		
19	Assertion (A): The range of the function $f(x) = 2 \sin^{-1} x + \frac{3\pi}{2}$,	1

	<p>where $\in [1, 1]$, is $\left[\frac{\pi}{2}, \frac{5\pi}{2}\right]$.</p> <p>Reason (R): The range of the principal value branch of $\sin^{-1}(x)$ is $[0, \pi]$.</p> <p>(A) Both (A) and (R) are true and (R) is the correct explanation of (A). (B) Both (A) and (R) are true but (R) is not the correct explanation of (A). (C) (A) is true but (R) is false. (D) (A) is false but (R) is true.</p>	
20	<p>(Assertion): The function $f(x) = x^2 - 6x + 8$ is strictly increasing for $x > 3$ (Reason): A function has maximum value at point $x = a$, if $f'(a) = 0$ and $f''(a) < 0$</p> <p>(A) Both (A) and (R) are true and (R) is the correct explanation of (A). (B) Both (A) and (R) are true but (R) is not the correct explanation of (A). (C) (A) is true but (R) is false. (D) (A) is false but (R) is true.</p>	1
SECTION B		
21	<p>Express $\tan^{-1}\left(\frac{\cos x}{1 - \sin x}\right)$, $\frac{\pi}{2} < x < \frac{3\pi}{2}$ in the simplest form.</p> <p>OR</p> <p>Find the value of $\tan^{-1}\left[2\cos\left(2\sin^{-1}\frac{1}{2}\right)\right] + \tan^{-1}(1)$.</p>	2
22	Find the derivative of $\sin^2 x$ with respect to $e^{\cos x}$.	2
23	<p>If $x = e^{y+e^y+\dots}$, then find the value of $\frac{dx}{dy}$.</p> <p>OR</p> <p>If $f(x) = \begin{cases} ax + 3, & \text{if } x \leq 1 \\ a^2x - 1, & \text{if } x > 1 \end{cases}$, then the values of a for which f is continuous for all x.</p>	
24	If $\vec{a} + \vec{b} + \vec{c} = 0$ and $ \vec{a} = 3$, $ \vec{b} = 5$ and $ \vec{c} = 7$, show that angle between \vec{a} and \vec{b} is 60° .	2
25	Find the magnitude of each of the two vectors \vec{a} and \vec{b} , having the same magnitude such that the angle between them is 60° and their scalar product is $\frac{9}{2}$.	2
SECTION C		
26	Find two positive numbers whose sum is 24 and product is maximum.	3
OR		

	The radius of a cylinder is increasing at the rate of 3m/s and its altitude is decreasing at the rate of 4m/s . The rate of change of volume when radius is 4m and altitude is 6m.	
27	Find the intervals in which the function f given by $f(x) = x^3 - 12x^2 + 36x + 17$ is increasing or decreasing.	3
28	<p>Evaluate $\int_0^{\pi/2} \log \sin x \, dx$</p> <p style="text-align: center;">OR</p> <p>Evaluate $\int \frac{\sec x \tan x \, dx}{\sqrt{3 - 2\sec x - \sec^2 x}}$</p>	3
29	Find the points on line $\frac{x+2}{3} = \frac{y+1}{2} = \frac{z-3}{2}$ at a distance of 5 units from the point P (1, 3, 3)	3
30	<p>Solve the following LPP graphically: Maximize: $Z = x + 2y$</p> <p>Subject to the constraints $x + 2y \geq 100, 2x - y \leq 0, 2x + y \leq 200$ and $x \geq 0, y \geq 0$.</p> <p style="text-align: center;">OR</p> <p>Solve the following Linear Programming Problem graphically:</p> <p>Minimise: $Z = x + 2y$</p> <p>Subject to constraint: $2x + y \geq 3, x + 2y \geq 6, x, y \geq 0$</p> <p>Show graphically that the minimum of Z occurs at more than two points.</p>	3
31	A black and a red die are rolled together. Find the conditional probability of obtaining the sum 8, given that the red die resulted in a number less than 4.	3
	SECTION D	
32	<p>If $A = \begin{bmatrix} 1 & 1 & 1 \\ 1 & 0 & 2 \\ 3 & 1 & 1 \end{bmatrix}$, find A^{-1}. Hence, solve the system of equations $x + y + z = 6$, $x + 2z = 7$, $3x + y + z = 12$</p>	5
33	Differentiate w.r.t. x : $(\sin x + \cos x)^{(\sin x - \cos x)} + (\log x)^{\tan x}$	5
34	<p>Using integration, find the area of the region bounded by the triangle whose vertices are (-1, 0), (1, 3) and (3, 2).</p> <p style="text-align: center;">OR</p> <p>Find the area of the region bounded by the curve $4x^2 + y^2 = 36$ using integration.</p>	5
35	<p>Show that the lines $\vec{r} = (\hat{i} + \hat{j} - \hat{k}) + \lambda(\hat{3i} - \hat{j})$ and $\vec{r} = (4\hat{i} - \hat{k}) + \mu(\hat{2i} + 3\hat{k})$ intersect. Also find their point of intersection and angle between them.</p> <p style="text-align: center;">OR</p> <p>Find the coordinates of the foot of perpendicular and the length of the perpendicular drawn from the point P(5, 4, 2) to the line $\frac{x+1}{2} = \frac{y-3}{3} = \frac{z-1}{-1}$.</p> <p>Also, find the image of P in this line.</p>	5

	SECTION E	
36	<p>An organization conducted bike race under 2 different categories - boys and girls. Totally there were 250 participants. Among all of them finally three from Category 1 and two from Category 2 were selected for the final race. Ravi forms two set B and G with these participants for his college project. Let where B represents the set of boys selected and G the set of girls who were selected for the final race.</p> <p>Ravi decides to explore these sets for various types of relations and functions</p> <p>(A) Ravi wishes to form all the relations possible from B to G. How many such relations are possible.</p> <p>(B) Ravi wants to know among those relations; how many functions can be formed from B to G.</p> <p>(C) Let a relation be defined by $R_b = \{ (b_1, b_2) : b_1 \text{ and } b_2 \text{ both are boys} \}$, Show that this relation R is equivalence relation.</p> <p style="text-align: center;">OR</p> <p>(C) Let a relation be defined by $R_g = \{ (g_1, g_2) : g_1 \text{ and } g_2 \text{ both are girls} \}$, Show that this relation R is equivalence relation.</p> <div style="text-align: center;">  </div>	
37	<p>The relation between the height of the plant (y in cm) with respect to exposure to sunlight is governed by the following equation</p> $y = 4x - \frac{x^2}{2}$ <p>where x is the number of days exposed to sunlight.</p>	



- (A) Find the rate of growth of the plant with respect to sunlight.
- (B) What is the number of days it will take for the plant to grow to the maximum height.
- (C) Verify that height of the plant is maximum after four days by second derivative test and find the maximum height of plant.

OR

- (C) What will be the height of the plant after 2 days.

38	<p>A doctor is to visit a patient. From the past experience, it is known that the probabilities that he will come by train, bus, scooter or by other means of transport are respectively $\frac{3}{10}$, $\frac{1}{5}$, $\frac{1}{10}$ and $\frac{2}{5}$. The probabilities that he will be late are $\frac{1}{4}$, $\frac{1}{3}$ and $\frac{1}{12}$ if he comes by train, bus and scooter respectively, but if he comes by other means of transport, then he will not be late. On the basis of above information, answer the following questions.</p> <p>(A) Find the probability that he is late.</p> <p>(B) When he arrives, he is late. What is the probability that he comes by train.</p> <p>(C) When he arrives, he is late. What is the probability that he comes by bus.</p> <p style="text-align: center;">OR</p> <p>(C) When he arrives, he is late. What is the probability that he comes by scooter.</p> <div> </div>	4
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KENDRIYA VIDYALAYA SANGATHAN BHUBANESWAR REGION

PRE-BOARD EXAMINATION 2025-26

CLASS XII SUBJECT: PHYSICS (042)

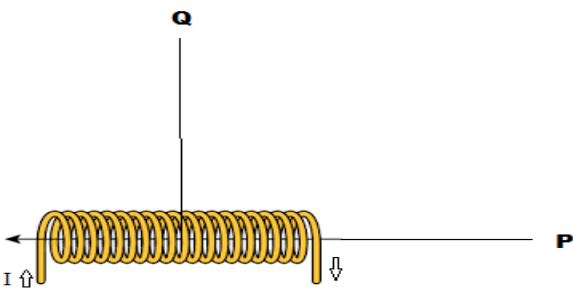
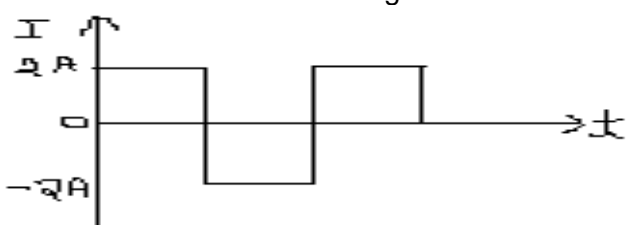
MAXIMUM MARKS: 70

TIME ALLOWED: 3 HOURS

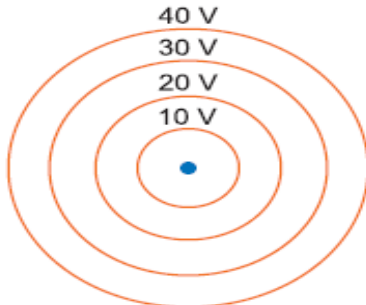
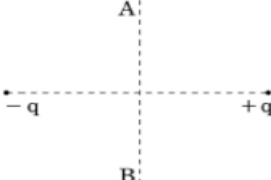
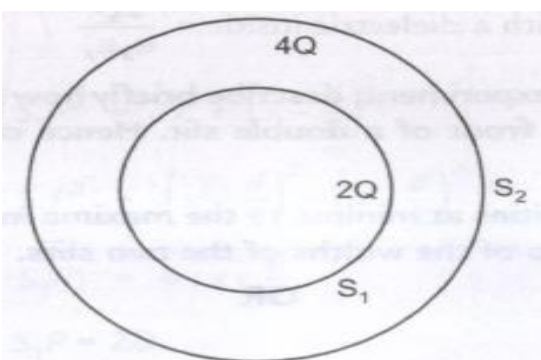
General Instructions:

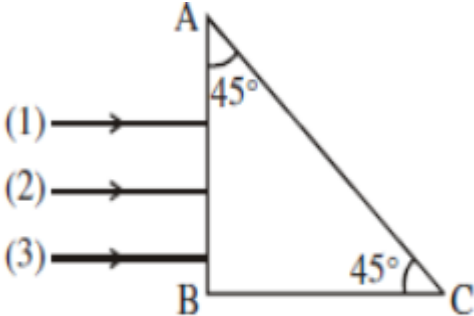
- (i) This question paper contains 33 questions. All questions are compulsory.
- (ii) This question paper has five sections: Section A, B, C, D and E.
- (iii) In Section A- Questions no. 1 to 16 are Multiple Choice type questions. Each question carries 1 mark.
- (iv) In Section B- Questions no. 17 to 21 are Very Short Answer type questions. Each question carries 2 mark.
- (v) In Section C- Questions no. 22 to 28 are Short Answer type questions. Each question carries 3 marks.
- (vi) In section D- Questions no. 29 and 30 are case study-based questions. Each question carries 4 marks.
- (vii) In section E- Questions no-31 to 33 are long Answer type questions. Each question carries 5 marks.
- (viii) There is no overall choice. However, an internal choice has been provided in few questions in all sections except Section A.
- (ix) Use of calculator is not allowed.
- (x) You may use the following values of physical constants wherever necessary:
 $c = 3 \times 10^8 \text{ m/s}$, $h = 6.63 \times 10^{-34} \text{ Js}$, $e = 1.6 \times 10^{-19} \text{ C}$, $\mu_0 = 4\pi \times 10^{-7} \text{ TmA}^{-1}$,
 $\epsilon_0 = 8.854 \times 10^{-12} \text{ C}^2\text{N}^{-1}\text{m}^{-2}$, $\frac{1}{4\pi\epsilon_0} = 9 \times 10^9 \text{ Nm}^2\text{C}^{-2}$,
 Mass of electron = $9.1 \times 10^{-31} \text{ Kg}$
 Mass of neutron = $1.675 \times 10^{-27} \text{ Kg}$
 Mass of proton = $1.673 \times 10^{-27} \text{ Kg}$
 Avogadro's number = 6.023×10^{23} per gram mole
 Boltzmann constant = $1.38 \times 10^{-23} \text{ JK}^{-1}$.

SECTION-A		
Q.N	QUESTION	MM
1	The plates of a parallel plate capacitor are 4cm apart, the first plate is at 300V and second plate at -100 V. The voltage at 3 cm from the second plate is (a) 200V (b) 400V (c) 250V (d) 500 V	1
2	The drift velocity of the free electrons in a conducting wire carrying a current is v . If in a wire of the same metal, but of double the radius, the current be $2I$, then the drift velocity of the electrons will be (a) $v/4$ (b) $v/2$ (c) v (d) $4v$	1
3	A heater coil rated as (P,V) is cut into two equal parts. One of the part is then connected to a battery of V volt. The power consumed by it will be (a) P (b) $P/2$ (c) $P/4$ (d) $2P$	1

4	<p>Beams of electron and protons move parallel to each other in the same direction. They</p> <p>(a) Attract each other (b) repel each other</p> <p>(c) neither repel nor attract (d) attraction or repulsion depends upon speed of beam</p>	1
5	<p>The phase difference between Current and voltage in LCR series circuit at a stage when the impedance of circuit become minimum is:</p> <p>(a) π (b) $\pi/2$ (c) $\pi/3$ (d) Zero</p>	1
6	<p>When we move magnetic compass from point P to Q then which of the following statement is true</p>  <p>(a) The deflection of the magnetic needle at P and Q will be in the same direction.</p> <p>(b) The deflection of the magnetic needle at P and Q will be in the opposite directions.</p> <p>(c) The deflection of the magnetic needle at P and Q will be perpendicular to each other</p> <p>(d) The deflection of the magnetic needle at P and Q will be inclined at 45° with respect to each other</p>	1
7	<p>The rms value of the alternating current shown in figure</p>  <p>a) Zero b) 2A c) 4A d) 16A</p>	1
8	<p>Displacement current exists only when</p> <p>a) Electric field is changing</p> <p>b) Magnetic field is changing</p> <p>c) Electric field is not changing</p> <p>d) Both electric and magnetic fields are not changing.</p>	1

	<p>(ii) Find the ratio of the radii of the circular paths which the two particles may describe.</p> <div style="text-align: center;"> <p>OR</p> <p>The given figure shows the variation of intensity of magnetization (I) versus applied magnetic field intensity H for two magnetic material A and B.</p> <p>a) Identify the material A and B.</p> <p>b) Draw variation of Susceptibility (X) w.r.t. temperature for B.</p> <div style="text-align: center;"> </div> </div>	2
21	<p>(a) Plot a graph showing variation of de-Broglie wavelength λ versus $\frac{1}{\sqrt{V}}$, where V is accelerating potential for two particles A and B carrying same charge but of masses $m_1, m_2 (m_1 > m_2)$.</p> <p>(b) Which one of the two graphs represents a particle of smaller mass and why ?</p> <p style="text-align: center;">OR</p> <p>Given the value of the ground state energy of hydrogen atom as -13.6 eV. Find out its kinetic and potential energy in the ground and second excited states.</p>	2
SECTION-C		
22	Name a device which is used in the chargers of Mobile Phone/Laptop to convert High AC voltage into a very low DC voltage. On which property of p-n junction diode does it work? Draw circuit diagram, input and output waveforms of the device.	3
23	State Huygens principle. Derive 2 nd law of reflection on the basis of Huygen's wave theory .	3
24	A given coin has a mass of 3.0 g. Calculate the nuclear energy that would be required to separate all the neutrons and protons from each other. For simplicity assume that the coin is entirely made of ${}_{29}\text{Cu}^{63}$ atoms (of mass 62.92960 u). The masses of proton and neutrons are 1.00783 u and 1.00867 u respectively.	3
25	Draw a schematic ray diagram of a reflecting telescope. State the advantages of reflecting telescope over refracting telescope.	3

	SECTION-E	
31	<p>(A) Concentric equipotential surfaces due to a charged body placed at the centre are shown. Identify the polarity of the charge and draw the electric field lines due to it.</p>  <p>(B) Net capacitance of three identical capacitors in series is $1\ \mu\text{F}$. What will be their net capacitance if connected in parallel? Find the ratio of energy stored in the two configurations if they are both connected to the same source.</p> <p>(C) A charge 'q' is being moved from a point A above a dipole of dipole moment 'p' to a point B below the dipole in equatorial plane without acceleration. Find the work done in the process.</p>  <p style="text-align: center;">OR</p> <p>(A) Consider two hollow concentric spheres, S_1 & S_2, enclosing charges $2Q$ & $4Q$ respectively as shown.</p> <p>(i) Find out the ratio of the electric flux through them. (ii) how will the electric flux through the sphere S_1 change, if a medium of dielectric constant ϵ_r is introduced in the space inside S_1 in place of air ? Deduce the necessary expression.</p>  <p>(B) Using Gauss's law, obtain the expression for electric field intensity at a point due to an infinitely large, plane sheet of charge of charge density $\sigma = \text{C/m}^2$. Draw a graph between electric field and distance of point . (C)How is the field directed if the sheet is (i) positively charged (ii) negatively charged?</p>	<p>2+2+1</p> <p>2+2+1</p>

32	<p>(A) Derive lens maker's formula.</p> <p>(B) Three rays (1,2,3) of different colours fall normally on one of the sides of an isosceles right angled prism as shown.</p>  <p>The refractive index of prism for these rays is 1.39, 1.47 and 1.52 respectively. Find which of these rays get internally reflected and which get only refracted from AC. Trace the path of rays. Justify your answer.</p> <p style="text-align: center;">OR</p> <p>(A) Define angle of deviation in a prism.</p> <p>(B) A ray of light incident on an equilateral glass prism propagates parallel to the base line of the prism inside it. Find the angle of incidence of this ray. Given refractive index of material of glass prism is $\sqrt{3}$.</p> <p>(C) When are the two sources of light said to be coherent? No two independent sources of light are coherent. Why?</p>	3+2
33	<p>(A) State the working principle of a moving coil galvanometer. Why is it necessary to introduce a cylindrical soft iron core inside the coil of a galvanometer?</p> <p>(B) Increasing the current sensitivity of a galvanometer may not necessarily increase its voltage sensitivity." Justify this statement.</p> <p>(C) The current sensitivity of a moving coil galvanometer increases by 20 % when its resistance is increased by a factor of 2. Calculate by what factor the voltage sensitivity changes?</p> <p style="text-align: center;">OR</p> <p>(A) Show a plot of variation of (i) magnetic flux and (ii) alternating emf versus time generated by a loop of wire rotating in a magnetic field in an ac generator.</p> <p>(B) Name that device which is a key component in the transfer of electrical power over long distances. Also state the working principle of device.</p> <p>(C) In a series LR circuit $X_L = R$ and power factor of the circuit is P_1. When capacitor with capacitance C such that $X_L = X_C$ is put in series, the power factor becomes P_2. Calculate P_1/P_2.</p>	2+1+2

KENDRIYA VIDYALAYA SANGATHAN, BHUBANESWAR REGION**PRE-BOARD EXAMINATION 2025-26****CHEMISTRY THEORY (043)****Max. Marks:70****Time: 3 hours****GENERAL INSTRUCTIONS:**

Read the following instructions carefully.

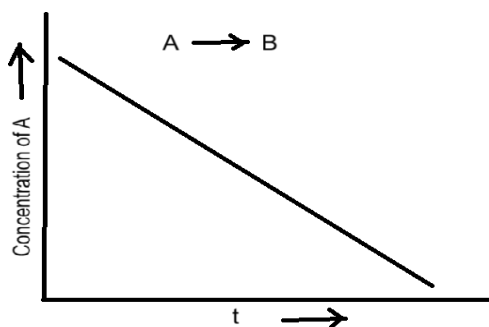
- a) There are 33 questions in this question paper with internal choice.
- b) SECTION A consists of 16 multiple-choice questions carrying 1 mark each.
- c) SECTION B consists of 5 short answer questions carrying 2 marks each.
- d) SECTION C consists of 7 short answer questions carrying 3 marks each.
- e) SECTION D consists of 2 case-based questions carrying 4 marks each.
- f) SECTION E consists of 3 long answer questions carrying 5 marks each.
- g) All questions are compulsory.
- h) Use of log tables and calculators are not allowed.

SECTION A

The following questions are multiple-choice questions with one correct answer. Each question carries 1 mark. There is no internal choice in this section.

- 1 Which one is most reactive towards SN^1 reaction? 1
 - a) $\text{C}_6\text{H}_5\text{CH}(\text{C}_6\text{H}_5)\text{Br}$
 - b) $\text{C}_6\text{H}_5\text{CH}(\text{CH}_3)\text{Br}$
 - c) $\text{C}_6\text{H}_5\text{CH}_2\text{Br}$
 - d) $\text{C}_6\text{H}_5\text{C}(\text{CH}_3)(\text{C}_6\text{H}_5)\text{Br}$
- 2 Which one of the following order is wrong, with respect to the property indicated? 1
 - a) Aniline > cyclohexylamine > benzamide (basic strength)
 - b) Formic acid > acetic acid > propanoic acid (acid strength)
 - c) Benzoic acid > phenol > cyclohexanol (acid strength)
 - d) Fluoro acetic acid > chloroacetic acid > bromoacetic acid (acid strength)
- 3 In acidic medium two moles of MnO_4^- accepts how many moles of electrons in a redox process? 1
 - a) 5 b) 3 c) 10 d) 1

4

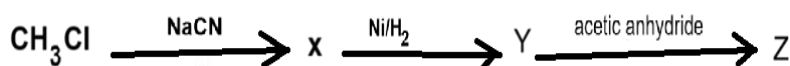


1

For a general reaction $A \longrightarrow B$, the plot of concentration of A vs time is given above. Based on this graph, order of the reaction, slope of the curve and the unit of rate constant respectively are

- Zero, $-k$, $\text{mol L}^{-1} \text{s}^{-1}$
- First order, $-\frac{k}{2.303}$, s^{-1}
- Zero, $\frac{1}{2}k$, $\text{L mol}^{-1} \text{s}^{-1}$
- First, $-k$, s^{-1}

5



1

Z in the above reaction sequence is

- $\text{CH}_3\text{CH}_2\text{CH}_2\text{NHCOCH}_3$
- $\text{CH}_3\text{CH}_2\text{NH}_2$
- $\text{CH}_3\text{CH}_2\text{NHCOCH}_3$
- $\text{CH}_3\text{CH}_2\text{CONH}_2$

6 Propene, $\text{CH}_3\text{CH}=\text{CH}_2$ can be converted into 1-propanol by oxidation. Indicate which set of reagents amongst the following is ideal to effect the above conversion? 1

- KMnO_4 (alkaline)
- PCC
- B_2H_6 and alk. H_2O_2
- O_3/Zn

7 The IUPAC name of $[\text{Ni}(\text{CO})_4]$ is

1

- Tetracarbonyl nickel(II)
- Tetracarbonylnickel(0)
- Tetracarbonylnickelate(I)
- Tetracarbonylnickel(IV)

8 Which of the following pairs have a branched chain structure? 1

- Amylopectin, Amylose
- Amylose, Cellulose
- Cellulose, Glycogen
- Amylopectin, Glycogen

9 Which of the following ions has electronic configuration $[\text{Ar}]3d^6$? 1

- Ni^{3+}
- Mn^{3+}
- Fe^{3+}
- Co^{3+} [Atomic numbers: Mn=25; Fe=26; Co=27; Ni=28]

- 10 The rate constant for the reaction $2\text{N}_2\text{O}_5 \rightarrow 4\text{NO}_2 + \text{O}_2$ is $3.10 \times 10^{-5} \text{ sec}^{-1}$. If the rate is $2.4 \times 10^{-5} \text{ mol litre}^{-1} \text{ sec}^{-1}$ then the concentration of N_2O_5 (in mol litre^{-1}) is :
 (a) 0.04
 (b) 0.8
 (c) 0.07
 (d) 1.4
- 11 The product(s) in the reaction, $\text{CH}_3 - \text{O} - \text{CH}(\text{CH}_3)_2 + \text{HI} \rightarrow \text{Product}$ 1
 a) $\text{ICH}_2\text{OCH}(\text{CH}_3)_2$
 b) $\text{CH}_3\text{OCl}(\text{CH}_3)_2$
 c) $\text{CH}_3\text{I} + (\text{CH}_3)_2\text{CHOH}$
 d) $(\text{CH}_3)_2\text{CHOH} + \text{CHI}$
- 12 When phenol is treated with excess bromine water, it gives: 1
 a) *m*-bromophenol
 b) 2,4-dibromophenol
 c) *o* - and *p*-bromophenol
 d) 2, 4, 6-tribromophenol
- Q 13-16 are Assertion – Reason type of questions. Choose answer from following options:**
- a) Both A and R are true and R is the correct explanation of A
 b) Both A and R are true but R is not the correct explanation of A.
 c) A is true but R is false.
 d) A is false but R is true.
- 13 **Assertion (A):** The complex $[\text{CrCl}_3(\text{NH}_3)_3]$ does not give precipitate with AgNO_3 . 1
Reason (R): The given compound does not contain counter ions.
- 14 **Assertion (A):** Reduction of 1 mol of silver ion requires 2F of charge. 1
Reason (R): 1F is equal to charge of 1mol of electron.
- 15 **Assertion :** All naturally occurring α -aminoacids except glycine are optically active. 1
Reason : Most naturally occurring amino acids have L-configuration.
- 16 **Assertion :** The enthalpy of reaction remains constant in the presence of a catalyst. 1
Reason : A catalyst participating in the reaction, forms different activated complex and lowers down the activation energy but the difference in energy of reactant and product remains the same.

SECTION B

This section contains 5 questions with internal choice in one question. The following questions are very short answer type and carry 2 marks each.

- 17 H_2S , a toxic gas with rotten egg like smell, is used for the qualitative analysis. If the solubility of H_2S in water at STP is 0.195 m, calculate Henry's law constant. 2
- 18 What is lanthanoid contraction? Write its two consequences. 2
- 19 Which one of the following will have drastic increase in molar conductivity with decrease in concentration and why? A=Formic acid. B=Hydrochloric acid 2

OR

- 20** Answer any two: **2**
- Why is Grignard reagent prepared in dry ether?
 - What happens when 1-Chloro butane is treated with alcoholic KOH?
 - Chlorobenzene is resistant to nucleophilic substitution reactions. Give reason?

- 21** What happens when Glucose reacts with a **2**
- mild oxidising agent and
 - strong oxidising agent

OR

Match the following enzymes given in Column I with the reactions they catalyse given in Column II.

Column I (Enzymes)

- Invertase
- Maltase
- Pepsin
- Zymase

Column II (Reactions)

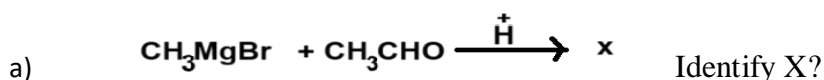
- Conversion of glucose into ethyl alcohol
- Hydrolysis of maltose into glucose
- Hydrolysis of cane sugar
- Hydrolysis of proteins into peptides

SECTION C

This section contains 7 questions with internal choice in one question. The following questions are short answer type and carry 3 marks each.

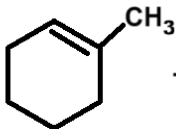
- 22** **3**
- State Kohlrausch law of independent migration of ions.
 - Calculate the number of Faradays required to produce 20g of calcium from molten CaCl_2 . (Atomic mass of calcium = 40g mol^{-1})
 - Write the electrode reaction at the anode and cathode when aqueous copper sulphate solution is electrolysed in presence of copper electrodes?
- 23** **1**
- Cr^{2+} is a good reducing agent. Give reason.
- 2**
- The potassium dichromate and chromates are interconvertible in aqueous solution depending upon pH of the solution. Explain the colour change with suitable reaction.
- 24** **1**
- How can you convert:
- But -2-ene to ethanal? **1**
 - Ethyl benzene to benzoic acid **1**
 - Chloromethane to ethanoic acid

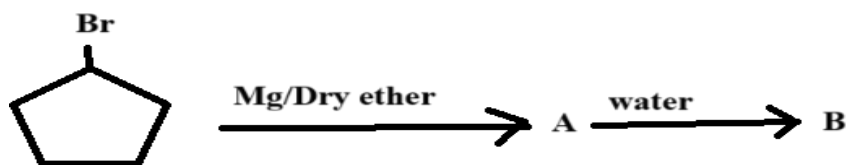
OR



- b) Benzoic acid will not give Friedel-Crafts reaction. Give reason.
- c) Write chemical equation for the reaction between N-phenyl hydrazene and ethanal?
- 25** **3**
- Which moieties of nucleosides are involved in the formation of phosphodiester linkages present in dinucleotides? What does the word diester in the name of linkage indicate? Which acid is involved in the formation of this linkage?

- 26 A compound 'A' used in alcoholic beverages on treatment with concentrated sulphuric acid at 443K produced compound 'B', which on oxidation with acidified KMnO_4 gives ethylene glycol. When metallic Sodium is added to compound A, Compound C is formed with liberation of hydrogen gas. Compound C when treated with methyl chloride produced compound D.
- Write the mechanism of the reaction for the conversion of compound A to Compound B. **2**
 - Conversion of compound C to compound D is a Named reaction. Identify the reaction. $\frac{1}{2}$
 - Write chemical equation for conversion of C to D $\frac{1}{2}$

- 27 a) **1**
-  + HI $\xrightarrow{\text{peroxide}}$ write the product
- Write Swarts reaction ? **1**
 - Identify A and B in the following: **1**



- 28 Calculate E_{cell} for the redox reaction taking place in an Electrochemical Cell **2**
- $\text{Mg(s)} + \text{Cu}^{2+} (0.01\text{M}) \rightarrow \text{Mg}^{2+} (0.001\text{M}) + \text{Cu(s)}$, $E^0_{\text{cell}} = 2.71 \text{ V}$.
- Write the overall reaction taking place in lead storage battery when the battery is in use. **1**

SECTION D

The following questions are case-based questions. Each question has an internal choice and carries 4 (2+1+1) marks each. Read the passage carefully and answer the questions that follow.

29 Read given passage and answer the questions that follow:

Chemical kinetics deals with rate of chemical reactions, how fast reactants get used up or how fast products are formed in the reaction. Differed chemical reactions have different speed. Rate of reaction depends upon concentration of reactants, temperature, pressure especially in gaseous reactions and presence of catalyst. Chemical reaction takes place as a result of collision between reacting molecules. The rate of reaction does not depend upon total number of collisions rather it depends upon number of effective collisions. In a redox reaction, if E°_{cell} is +ve, ΔG° will be -ve and 'K' equilibrium constant will be high i.e. products formed will be more than the reactants.

The rates of reaction between the reactants A and B were studied starting with different initial concentrations. The following data were obtained.

[A], mol lit ⁻¹	[B], mol lit ⁻¹	Initial rate, mol lit ⁻¹ s ⁻¹ at 300K	At 320K
2.5×10^{-4}	3.0×10^{-5}	5.0×10^{-4}	2.0×10^{-3}
5.0×10^{-4}	6.0×10^{-5}	4.0×10^{-3}	-----
1.0×10^{-3}	6.0×10^{-5}	1.6×10^{-2}

- What is the order of reaction with respect to A and B ? 2
 - Find the rate constant of the reaction at 300K when concentrations are in molL⁻¹ and time in seconds 1
 - Write the substituted equation to calculate Energy of activation. 1
- OR**
- Ea(Activation energy) and 'A' (Arrhenius constant) are 104.4 kJ mol⁻¹ and $6.0 \times 10^{14} \text{ s}^{-1}$ respectively. What is value of 'k' when $T \rightarrow \infty$ (1) 1

30

Sl.no	compounds	pKb
1	CH ₃ NH ₂	3.38
2	(CH ₃) ₂ NH	3.27
3	(CH ₃) ₃ N	4.22
4	C ₂ H ₅ NH ₂	3.29
5	(C ₂ H ₅) ₂ NH	3.0
6	(C ₂ H ₅) ₃ N	3.25
7	Aniline	9.38
8	p-nitro aniline	13.0
9	p-Toludine	9.21

Read the table and answer the questions given below.

- What is the decreasing order of the basicity of CH₃NH₂, (CH₃)₂NH and (CH₃)₃N Mention the reason. 2
 - Compare the basicity of aromatic and aliphatic amines ? 1
 - pKb value of ammonia is not mentioned in the above table. Suggest a place in the above table. 1
- OR**
- How can you convert ethanamine to methanamine? 1

SECTION E

The following questions are long answer types and carry 5 marks each. All questions have an internal choice.

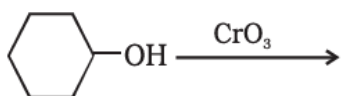
- Draw the geometrical isomerism shown by the complex [CoCl₂(en)₂] 1
 - What is the hybridisation and magnetic nature involved in complex [Ni(CN)₄]²⁻ 12

- c) Write the correct electronic configuration of the central atom in
 (i) $K_4[Fe(Cl)_6]$ (ii) $[Ni(en)_3]Cl_3$ based on crystal field theory? 1
 d) A coordination compound is red in colour. How can you infer about the CFSE of the complex

OR

- a) $[Ti(H_2O)_6]^{3+}$ is coloured while $[Sc(H_2O)_6]^{3+}$ is colourless.
 b) $[Cr(en)_3]^{3+}$ is more stable than $[Cr(NH_3)_6]^{3+}$ 1
 c) Arrange the following complex ions in increasing order of CFSE (Δ_0)
 $[CrCl_6]^{3-}$, $[Cr(CN)_6]^{3-}$, $[Cr(NH_3)_6]^{3+}$ 1
 d) Draw the isomers of $[Co(NH_3)_3Cl_3]$ 1
 e) Write the IUPAC name of the ionisation isomer of $[Co(NH_3)_5(SO_4)]Cl$ 1
32 a) Distinguish between the following pair of compounds with a chemical test. 2
 (i) Phenol and benzoic acid
 (ii) Acetone and pentan-3-one

- b) 1



- c) Write : (i) Cannizzaro reaction. (ii) H-V-Z reaction. 2

OR

- a) Acetaldehyde, Acetone, Di-tert-butyl ketone, Methyl tert-butyl ketone 1
 (Increasing order of reactivity towards HCN)
 b) An organic compound 'A' with molecular formula $C_4H_8O_2$ undergoes acid hydrolysis to form two compounds B and C. Oxidation of C with acidified $KMnO_4$ also produces B. Sodium salt of B on heating with soda lime $KMnO_4$ also produces B.
 i) Identify A, B 1
 ii) Out of B and C which will have higher boiling point? Give reason? 1
 iii) What is the type of reaction that gives methane as mentioned above. Write its equation. 2

33

- a) RBC neither swell nor undergo plasmolysis in 0.9% solution of Pure NaCl. Give reason. **1**
- b) Which Pure water or salt water of the same volume boils faster? Give reason. **1**
- c) The temperature at a hill station is -10°C . Will it be suitable to add ethylene glycol (mol. mass 62) to water in the radiator so that the solution is 40% by mass? (K_f for water $= 1.86 \text{ K kg mol}^{-1}$) **3**

OR

- a) What type of deviation from Raoult's law is exhibited by a mixture of chloroform and acetone? Will its mixture show any increase or decrease in their boiling point? If yes Explain. **2**
- b) 2g of benzoic acid dissolved in 25g of benzene shows a depression in freezing point equal to 1.62K. Molal depression constant for benzene is $4.9 \text{ K kg mol}^{-1}$. What is the percentage association of acid if it forms dimer in solution **3**

KENDRIYA VIDYALAYA SANGATHAN, BHUBANESWAR REGION

PRE-BOARD EXAMINATION (2025-26)

CLASS-XII

SUBJECT: BIOLOGY (044)

Maximum Marks-70

Time Allowed-03 hours

General Instructions:

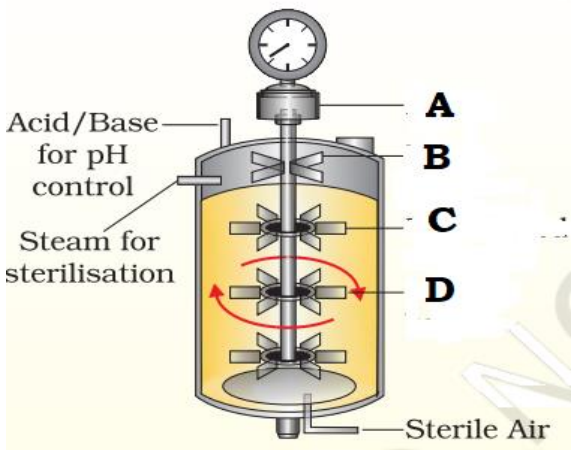
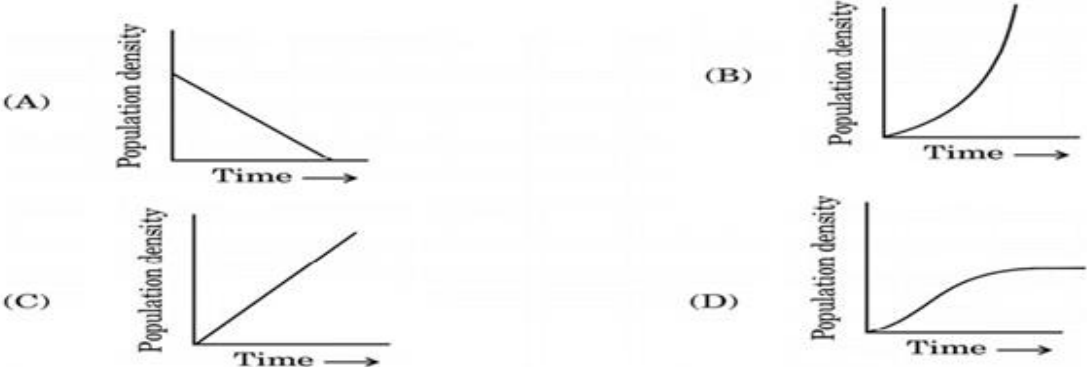
Read the following instructions carefully and follow them:

- i. This Question Paper contains **33** questions. **All** questions are compulsory*
- ii. Question paper is divided into **five** sections -Sections **A ,B, C, D** and **E**.*
- iii. **Section A**- questions number **1 to 16** are multiple choice type questions .Each questions carries **1** mark.*
- iv. **Section B**- questions number **17 to 21** are very short answer type questions .Each questions carries **2** marks.*
- v. **Section C**- questions number **22 to 28** are short answer type questions .Each questions carries **3** marks.*
- vi. **Section D**- questions number **29 and 30** are Case based questions .Each questions carries **4** marks. Each question has subparts with internal with internal choice in one of the subparts.*
- vii. **Section E**- questions number **31 to 33** are Long answer type questions .Each questions carries **5** marks*
- viii. There is no overall choice. However internal choices have been provided in Section B,C ,D and E of the question paper .A candidate has to write answer for only **one** of the alternatives in such questions.*
- ix. Wherever necessary, Neat and properly labeled diagrams should be drawn*

Section-A

Q. No. 1 to 12 are multiple choice questions. Only one of the choices is correct. Select and write the correct choice as well as the answer to these questions.

Q. No.	Questions	Marks
1	In a population of 1000 individuals 360 belongs to genotype AA, 480 to Aa and the remaining 160 to aa. Based on this data, the frequency of allele a in the population is a) 0.4 b) 0.5 c) 0.6 d) 0.7	1
2	A pink flowered Snapdragon plant was crossed with a red flowered Snapdragon plant. What type of phenotype/s is/are expected in the progeny? (a) Only red flowered plants (b) Red flowered as well as pink flowered plants (c) Only pink flowered plants (d) Red, Pink as well as white flowered plants	1
3	In vitro fertilization is a technique that involves transfer of which of the following into the uterus ? a) Zygote only b) Embryo only, up to 8 cell stage c) Embryo with more than 8 blastomere d) Embryo of 32 cell stage	1
4	Identify Which of the following are the reason(s) for Rheumatoid arthritis? Choose the correct option. i. The ability to differentiate pathogens or foreign molecules from self cells increases. ii. Body attacks self-cells iii. More antibodies are produced in the body iv. The ability to differentiate pathogens or foreign molecules from self-cells is lost (a) i and ii (b) ii and iv (c) iii and iv (d) i and ii	1
5	Histones are enriched with- (a) Phenylalanine & Leucine (b) Phenylalanine & Arginine (c) Lysine & Arginine (d) Leucine & Lysine	1

6	Pollen grains remain preserved as fossils due to the presence of (a) Tapetum (b) Exine layer (c) Intine layer d) Epidermal layer	1	
7	Which one of the following NOT a male sex accessory duct ? a) Rete testis b) vasa efferentia c) Epididymis d) seminiferous tubules	1	
8	Identify the part of a bio-reactor which is used as a foam braker from the given figure. a) A b) B c) C d) D		1
9	The particular flavour of swiss cheese is due to a (a) Bacteria (b) Protozoa (c) Virus (d) Fungi	1	
10	The population growth curve applicable for a population of beetles growing in nature under limited resource conditions available to them will be 	1	
11.	Which of the following is not true? a) It is generally believed that competition occurs when closely related species compete for the same resources that are limiting b)resources need not be limiting for competition to occur c) competition is best defined as a process in which the fitness of one species (measured in terms of its 'r' the intrinsic rate of increase) is significantly lower in the presence of another species d) competitive exclusion occurring in nature is always conclusive .	1	

12.	<p>Observe the diagram that represent pyramid of ecological parameter . It is always true for</p> <ol style="list-style-type: none"> Pyramid of numbers in a grassland ecosystem Pyramid of biomass Inverted pyramid of biomass An ideal pyramid of energy 	<p>Trophic level</p>	1
<p>DIRECTIONS For the question 13 to 16, two statements are given - one labelled as Assertion (A) and the other labelled as Reason (R). Select the correct answer to these questions from the codes (A), (B),(C) and (D) as given below.</p> <p>(A) Both Assertion(A) and Reason(R) are true and R is the correct explanation of A. (B) Both Assertion(A) and Reason(R)are true but R is not the correct explanation of A. (C) Assertion (A) is true but Reason(R) is false. (D) Assertion (A) is false but Reason(R) is true</p>			
13	<p>Assertion: There is no chance of malaria to a man on the bite of female Anopheles mosquito. Reason: It carries a virulent strain of Plasmodium</p>		1
14	<p>Assertion (A): Some ethical standards are required to evaluate the morality of scientific human activities that might help or harm living organisms. Reason (R): Genetic Engineering Approval Committee makes decisions regarding the validity of Genetically Modified (GM) research and the safety of introducing GM organisms for public services.</p>		1
15	<p>Assertion : A biosphere reserve is a specified area. Reason : No restriction on human activities has been imposed in biosphere reserve</p>		1
16	<p>Assertion A : In gymnosperms the pollen grains are released from the microsporangium and carried by air currents. Reason R : Air currents carry the pollen grains to the mouth of the archegonia where the male gametes are discharged and pollen tube is not formed</p>		1
Section-B			
17	Compare and contrast the theories of evolution proposed by Darwin and Hugo De Vries.		
18	What are the two major tasks under RCH(Reproductive and Child Health care programme)		2
19.	During artificial hybridization, it is important to ensure that only desired pollen grains are used for pollination. How is it ensured?.		2
20.	Identify P, Q,,R and S in the diagram of an antibody molecule given below		2
21.	<p><u>Attempt either option A or B</u></p> <p>A. Mention the cause and the body system affected by ADA deficiency in humans. Mention a possible permanent cure for ADA deficient patient.</p> <p style="text-align: center;">OR</p>		2

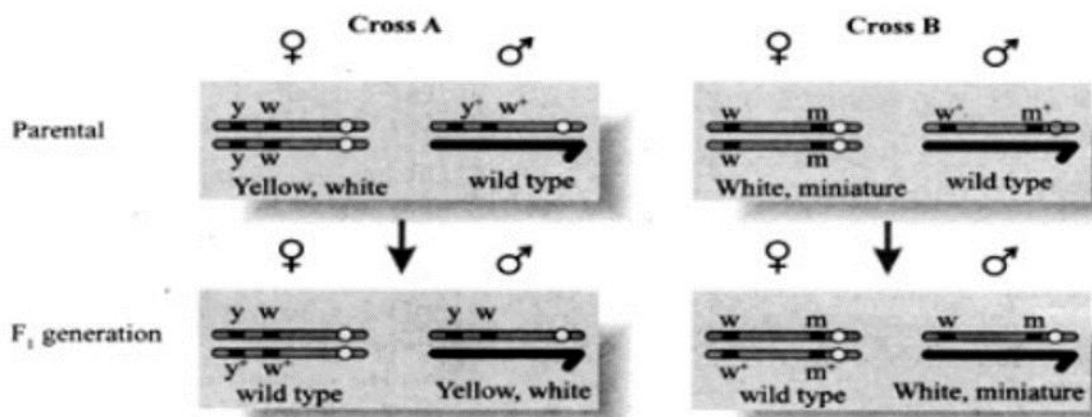
	<p>BamH1 is a restriction enzyme which recognizes the sequence- 5' - GGATCC - 3'. The restriction activity of this enzyme is between G and G.</p> <p>A. Construct the palindrome for the above sequence</p> <p>B. PBR322 is a plasmid that has a restriction site for this enzyme at the tetracycline resistant gene. If BamH1 were to be used, how will it impact the response of the transformant with rDNA to antibiotics ampicillin and tetracycline. Justify.</p>																					
	SECTION-C																					
22	State the medicinal value and the bioactive molecules produced by Streptococcus, Monascus and Trichoderma	3																				
23	<p>a)"Some species in an ecosystem exert greater influence in driving major ecosystem services than others." How did Paul Ehrlich explain this concept in his 'rivet popper hypothesis'?</p> <p>OR</p> <p>(b) (i) How has the introduction of Nile Perch into Lake Victoria in East Africa had a devastating effect on the indigenous species in the lake?</p> <p>(ii) Name two invasive weed species which have posed a threat to the existence of our native species</p>	3																				
24	<p>Differentiate between spermatogenesis and oogenesis in humans on the basis of the following :</p> <p>(a) When the process is initiated.</p> <p>(b)Number of functional gametes produced per primary spermatocyte /oocyte.</p> <p>(c) Specific site at which meiosis II is completed</p>	3																				
25.	<p>(i). Describe the structure and function of a t-RNA molecule. Why is it referred to as an adapter molecule</p> <p>(ii) Write the changes that hn RNA undergoes before it leaves the nucleus as mRNA.</p>	3																				
26.	<p><u>Attempt either option A or B</u></p> <p>A. It is often said that the pyramid of energy is always upright. On the other hand, the pyramid of biomass can be both upright and inverted. Explain with the help of examples and sketches.</p> <p>OR</p> <p>B.</p> <p>((i) Write the parasitic adaptations the parasites have evolved in accordance with their lifestyles.</p> <p>(ii) Hosts and parasites tend to co-evolve. Explain</p>	3																				
27.	<p>Identify 'a', 'b', 'c', 'd', 'e' and 'f' in the table given below.</p> <table><tr><th>No.</th><th>Syndrome</th><th>Cause</th><th>Charact- eristics of affected individuals</th><th>sex male/ female/ both</th></tr><tr><td>1.</td><td>Down's</td><td>Trisomy of 21</td><td>'a' (i) (ii)</td><td>'b'</td></tr><tr><td>2.</td><td>'c'</td><td>XXY</td><td>Overall masculine development</td><td>'d'</td></tr><tr><td>3.</td><td>Turner's</td><td>45 with XO</td><td>'e' (i), (ii)</td><td>'f'</td></tr></table>	No.	Syndrome	Cause	Charact- eristics of affected individuals	sex male/ female/ both	1.	Down's	Trisomy of 21	'a' (i) (ii)	'b'	2.	'c'	XXY	Overall masculine development	'd'	3.	Turner's	45 with XO	'e' (i), (ii)	'f'	3
No.	Syndrome	Cause	Charact- eristics of affected individuals	sex male/ female/ both																		
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2.	'c'	XXY	Overall masculine development	'd'																		
3.	Turner's	45 with XO	'e' (i), (ii)	'f'																		
28.	<p>The diagram below refer to PBR322.</p>	3																				

- What do EcoR I ,BamH I represent ?
- Identify the selectable marker of this pBR322..How does it help in r-DNA technology ?
- State the function of “rop”

Section-D

- 29 The crosses shown in the figure below has been carried out by Morgan in Drosophila to show the phenomenon of linkage and recombination

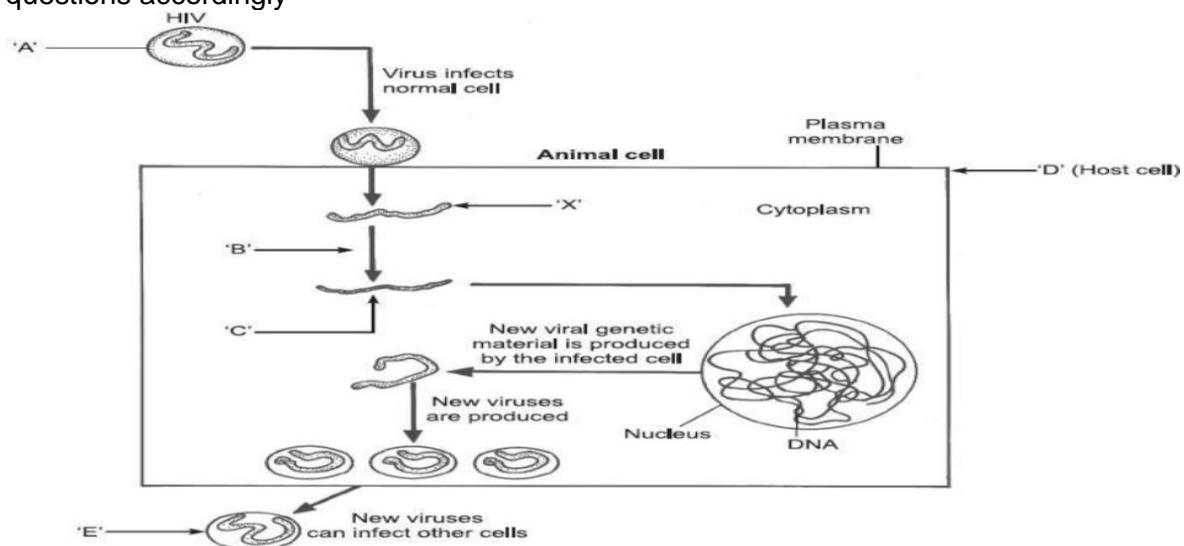
4



- Identify the traits denoted by “y”, “w” and “m”. Also write their contrasting forms.
- In which of the above two crosses strength of linkage between genes is higher and why?
- Why Morgan selected Drosophila for his study? Write any two reasons.
- Work of Morgan proves deviation of which law of Mendel?

- 30 Study the diagram showing replication of HIV in humans and answer the following questions accordingly

4



- Write the chemical nature of the coat ‘A’.
- Name the enzyme ‘B’ acting on ‘X’ to produce molecule ‘C’. Name ‘C’.
- Mention the name of the host cell ‘D’ the HIV attacks first when it enters into the human body.
- How does this virus replicate to cause immune -deficiency in the body ?

Section –E

31. **Attempt either option A or B**
A) Explain the ovarian and uterine events taking place along with the role of pituitary and ovarian hormones, during the menstrual cycle in a normal human female under the following phases

5

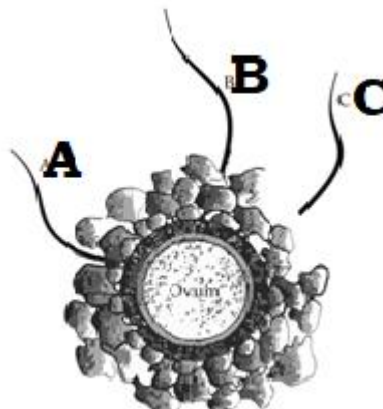
- i) Follicular/ proliferative phase ii) Luteal/ secretory phase
 iii) Menstrual phase

OR

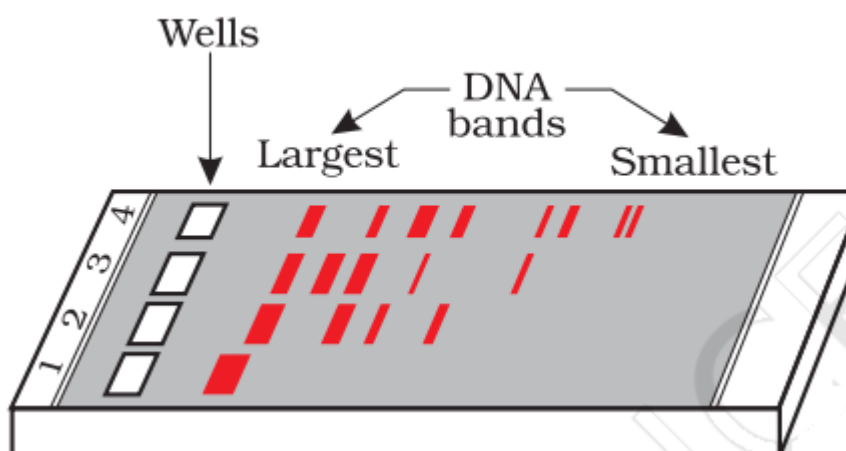
B.

:Given below is the diagram of a human ovum surrounded by a few sperms. Observe the diagram and answer the following questions :

(i) Compare the fate of sperms shown in the diagram.
 (ii) What is the role of zona pellucida in this process ?
 (iii) Analyze the changes occurring in the ovum during the process.
 (iv) How is the entry of sperm into the ovum facilitated ?
 (v) Specify the region of female reproductive system where the event represented in the diagram takes place



32. **Attempt either option A or B**
The following diagram depicts the process of separation and isolation of DNA fragments



- a) The fragments can be separated by a technique. What is the technique called ?
 b) Without following proper procedure, it is very difficult to isolate the desired fragments of DNA, write the step sequence wise.
 c) State one use of this technique

OR

	<p>B. Answer the following questions based on Bt-crops :</p> <p>(i) Why do farmers prefer to grow Bt cotton crop than genetically unmodified cotton crops?</p> <p>(ii) Name any two insects that are killed by Bt toxin.</p> <p>(iii) Explain the mechanism by which Bt toxin kills the insects but not the bacterium which possesses the toxin</p>	
33	<p><u>Attempt either option A or B</u></p> <p>A. (i) Given below is a DNA sequence and the genetic code of a template strand. Answer the questions based on these, assuming no post-transcriptional or post-translations modifications will take place. 3'- TACATGCCGTACTGTACC -5'</p> <p>(a) Write the nucleotide sequence that will be obtained on transcription of this DNA sequence.</p> <p>(b) Will translation of this sequence take place? Give a reason to support your answer.</p> <p>(ii) Give a labelled schematic representation of "lac operon" in its "Switched Off" position</p> <p style="text-align: center;">OR</p> <p>B.</p> <p>a) Which individual was most probably present at the scene ? Give reason to support your answer .</p> <p>b) Explain VNTR and describe its role in DNA fingerprinting.</p> <p>c) List any two situation where we can use this technique except paternal testing and crime Scene .</p> <p>d) Help your friend to identify P,Q,R,S of steps of DNA fingerprint .</p> <p>(I) Isolation Of DNA → (II) Digestion Of DNA By "P" → (III) Separation Of DNA Fragments By "Q" → (IV) Transferring (Blotting) Of Separated DNA Fragments To Synthetic Membranes, Such As Nitrocellulose Or Nylon, → (V) "R" Using Labelled VNTR Probe → (VI) "S" Of Hybridized DNA Fragments By Autoradiography</p>	5

KENDRIYA VIDYALAYA SANGATHAN , BHUBANESWAR REGION
PRE-BOARD EXAMINATION (2025-26)

SET-1

Class XII

Subject: BIOTECHNOLOGY (045)

Maximum Marks: 70

Maximum Time Allowed: 3 hours

General Instructions:

- I. The question paper has five Sections. All questions are compulsory.
- II. Section–A contains 12 Multiple choice questions and 4 Assertion-Reasoning based questions of 1 mark each;
Section–B has 5 short answer questions of 2 marks each;
Section–C has 7 short answer questions of 3 marks each;
Section–D has 2 case-based question of 4 marks;
Section–E has three long answer questions of 5 marks each.
- III. There is no overall choice. However, internal choices have been provided in some questions. A student must attempt only one of the alternatives in such questions.

SECTION-A (ONE MARK EACH)

1. Which of the following is not a correct statement about monoclonal antibodies? (1)
 - a. Monoclonal antibodies are highly specific for a particular epitope
 - b. Monoclonal antibodies are used for the diagnostics and therapeutics
 - c. Monoclonal antibodies producing Hybridoma cells are fusion of B-Cell and Myeloma cell.
 - d. In Monoclonal antibody producing hybridoma cells immortality is due to B cells.
 2. The relatively high level of auxin to cytokinin favoured during organogenesis. (1)
 - a) Root formation
 - b) Shoot formation
 - c) Both root and shoot formation
 - d) All of the above
 3. To reduce the possibility of re-ligation of vector without picking insert, the following method or methods may be used- (1)
 - (i) Use of DNA Ligase
 - (ii) Use of Alkaline Phosphatase
 - (iii) Use of two different Restriction enzymes for cloning
 - (iv) Hybridoma technology
- Select the correct answer from options below**
- a. (i), (iv) b. (ii), (iii) c. (iii), (iv) d. (ii), (iv)
4. *Alcaligenes eutrophus* is associated with the production of (1)
 - (a) Streptomycin
 - (b) Penicillin
 - (c) Hepatitis antigen
 - (d) Poly 3-hydroxybutyrate

5. A scientist performed an experiment to express Hepatitis B surface antigen in potatoes. What is the main goal of this strategy ? (1)
- a) Increase nutrients content b) Induce immunity
c) Produce insulin d) Induce rapid growth
6. A genetically modified tomato produces less ethylene due to suppression of expression of ACS gene. What is the likely outcome ? (1)
- a) Faster ripening b) Reduced sugar content
c) Delayed ripening d) Increased disease resistance
7. A researcher adds a selective medium to culture of soil microbes to favour the growth of nitrogen-fixing bacteria. Which type of culture is this ? (1)
- a) Pure culture b) Enriched culture c) Mixed culture d) Differential culture
8. Which database will you search for Phylogenetic analysis? (1)
- a) EMBL b) PDB c) UniProtKB d) PALL
9. A protein ion with a molecular weight of 10,000 Daltons carried a charge of 5+ and was subjected to mass spectrometric analysis. Calculate its mass to charge ratio. (1)
- a) 2001 b) 2000 c) 2501 d) 5001
10. A subtilisin enzyme is engineered to resist denaturation by surfactants in detergents. What problem does this solve ? (1)
- a) Poor solubility in water b) High production cost
c) Loss of enzyme activity d) Inability to remove oil stain
11. Tushita a Biotechnologist synthesized a fluoro-labelled DNA probe by removing few nucleotides & replacing with labelled one. She also used two enzymes namely-M & N. Identify the process & enzymes used by her while preparing the probes. (1)
- a) Process- Nick translation, M- DNase I, N- DNA Pol I
b) Process- Dideoxy Chain Termination, M- DNase I, N- DNA Pol I
c) Process- Nick translation, M- RNA Pol I, N- DNase I
d) Process- Dideoxy Chain Termination, M- RNA Pol I, N- DNase I
12. Which of the following may be used as a probe for the sequence - (1)
ATTGCGATCGATCGTAGCAGT?
- a. CGATCGTAGC b. GCTAGCATCG
c. GTAGCAGT d. ATTGCGATCG

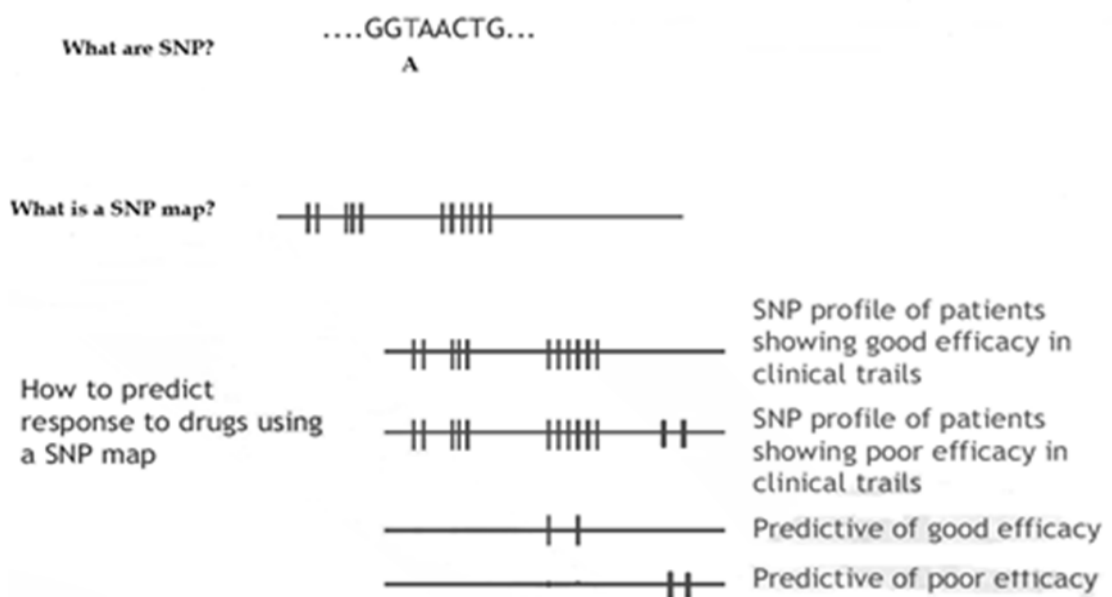
Question No. 13 to 16 consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true and R is not the correct explanation of A.
- (c) A is true, but R is false.
- (d) A is false, but R is true.

13. Assertion: The specific growth rate of a microorganism is a measure of how quickly its population increases per unit of biomass under defined conditions. (1)
Reason: Specific growth rate reflects the intrinsic growth capacity of a particular microorganism in all environments.
14. Assertion- Curd is used as a probiotic which is administered with an antibiotic. (1)
Reason- Curd is a good source of beneficial bacteria that can colonise the intestinal tract after the use of antibiotics
15. Assertion: Maintaining a stable euploid karyotype is crucial for embryonic stem (ES) cells in culture. (1)
Reason: Changes in chromosome number or structure can occur spontaneously.
16. Assertion: Virus free plants are regenerated through apical meristem culture. (1)
Reason: Apical meristem cells are devoid of viral infection.

SECTION-B (TWO MARKS EACH)

17. (2)



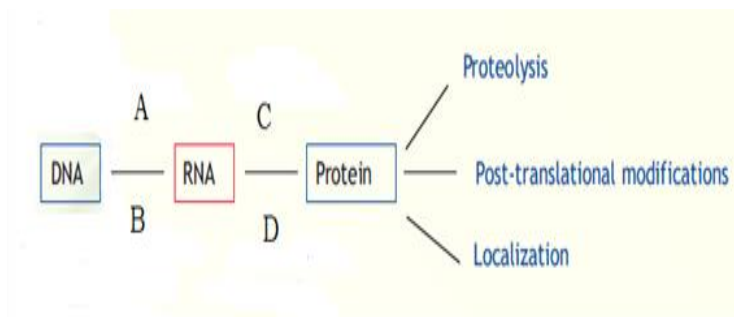
The figure above depicts a process used in diagnosis of a disease, carefully observe it and answer the following questions: (2)

- a. Write a sequence to show a possible SNP of the given sequence GGTAACTG.
 - b. Mention any one beneficial SNP variation in the human genome?
18. A fungal extract has anti-cancer potential & it has shown positive result in clinical trials against childhood leukemia. However the active compound is present in very low concentration in the extract. Suggest two ways to increase the production of the metabolite by the fungal species. (2)

19. The gene for a eukaryotic polypeptide hormone was isolated, cloned and over-expressed in a bacterium. After the polypeptide was purified from the bacterium, it failed to function in the organism from which the gene was isolated. Suggest all the possibilities why the recombinant protein was inactive. (2)
20. Calculate the generation time of a bacterial population in which the number of bacteria increases from 10^4 /mL to 10^8 / mL during four hours of exponential growth. (2)
21. Pure-line breeds of a plant are needed to carry out hybridization programme. As a student of Biotechnology suggest a way to obtain pure-line through Plant Tissue Culture. Explain the process in brief. (2)

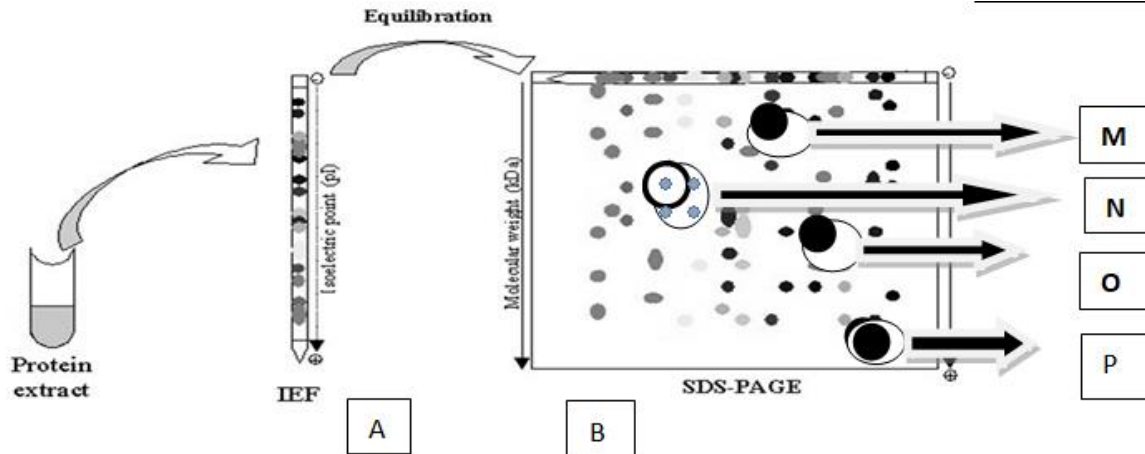
SECTION-C (THREE MARKS EACH)

22. a) Scientists discovered a population of microbes producing certain new antibiotic, in ocean water samples. Suggest an approach most likely to be used to analysis genome of microbes as a whole and fish out the gene of interest producing novel molecules. (3)
- b) Enlist the steps to be followed for identification of these novel genes
- OR
- a) Why is *Pichia pastoris* preferred over *Saccharomyces cerevisiae* for better expression of genes ?
- b) How would you ensure that production of a recombinant molecule does not occur until required?
23. The flow chart below depict processes through which genes can give rise to multiple protein products with differing functions. If A represents Transcription, C- Translation and B&D-Translational regulation (3)



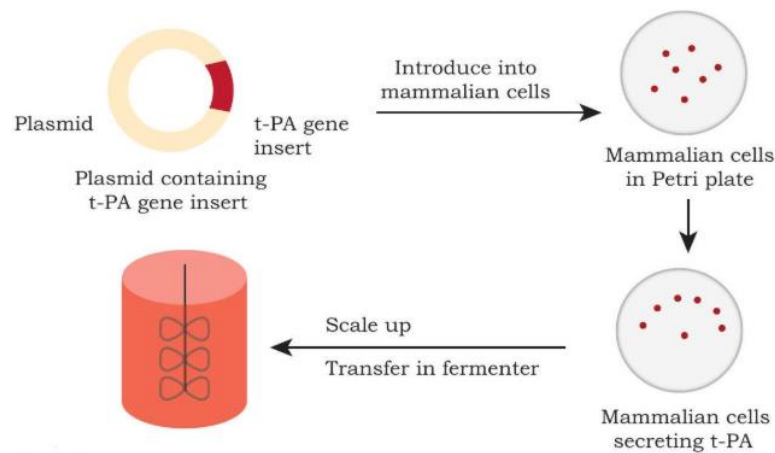
- a) Where among B and D would you find alternative splicing and mRNA editing?
- b) Analysis of mRNA does not provide an accurate reflection of the protein content in a cell. Why? (any two reasons)
24. An investigator is interested in studying the level of mRNA production from every gene in an eukaryotic organism. Name a technique he would use for completing his research work. & explain the steps of this technique. (3)
25. a) How is rice genetically engineered to form Golden rice? Why are the seeds of rice yellow in colour? (3)
- b) How has Golden rice been further modified to make it more nutritious?
26. a) What are Restriction enzymes ? Which among them are extensively used in RDT?
- b) What is Restriction-Modification system in bacterial cell? Describe it's both the components.

27. Carefully observe the technique of separation of proteins depicted below & answer the questions (3)



- Why is this technique called 2-D gel electrophoresis?
- Proteins **M, N, O and P** have been separated in B. Arrange these proteins in increasing order of molecular weight. .
- Identify **A** and state the principle involved in **A**.

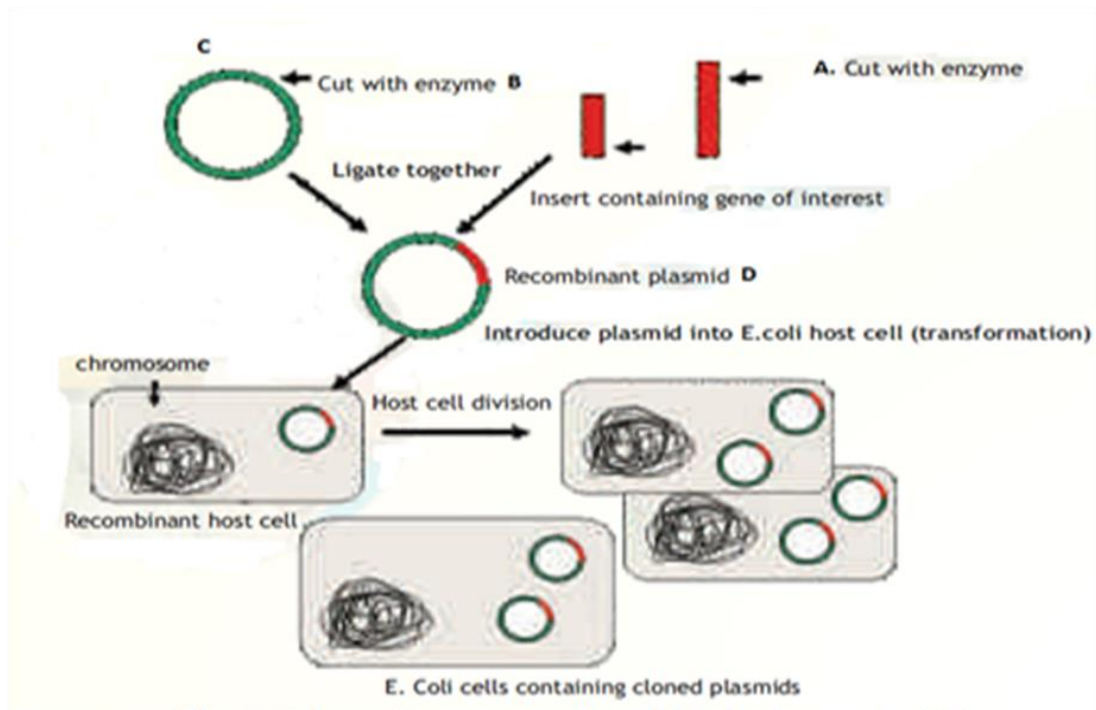
28. The figure below represents the production of the first drug to be produced through mammalian culture. Write down its full name, the condition it cures and its mode of action.



SECTION-D (FOUR MARKS EACH)

29. CASE STUDY – 1

Study the given figure given below and answer the following questions (4) {1+1+2}



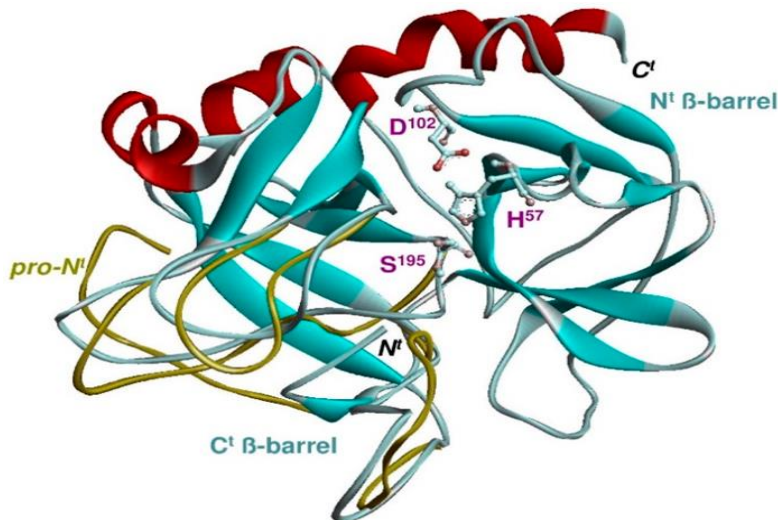
- If C has selectable markers- Amp^R and lacZ genes and lacZ gene contains MCS, which selection method will you use to select the recombinant host cells
- Mention the composition of the medium that you will use for selection.
- State the principle of this selection method .

30. **CASE STUDY – 2**

(4) {1+2+1}

Read the following passage and answer the following questions-

Normally the hydroxyl group of a serine residue is not acidic (pK_a 12) and this is true for all other serine residues of chymotrypsin; only ser195 becomes acidic due to the unique constellation of the three amino acid residues because the protein has folded uniquely in space. You may be curious about the importance of an acidic serine residue. The negatively charged oxygen anion is able to make a nucleophilic attack on the carbonyl carbon of the peptide bond of its substrate, loosening it so that a water molecule can hydrolyse the bond.



- (i) The hydroxyl group of a Serine residue has a pKa of 12 that is it is not acidic.
Why does serine become acidic chymotrypsin?
- (ii) Do you think that the charge relay system will work if Aspartic acid is replaced by Methionine ? Give reason for your answer.
- (iii) How is chymotrypsinogen activated in situ in the duodenum?

Or

Why do organophosphates make enzymes with acidic serine residue inactive?

SECTION-E (FIVE MARKS EACH)

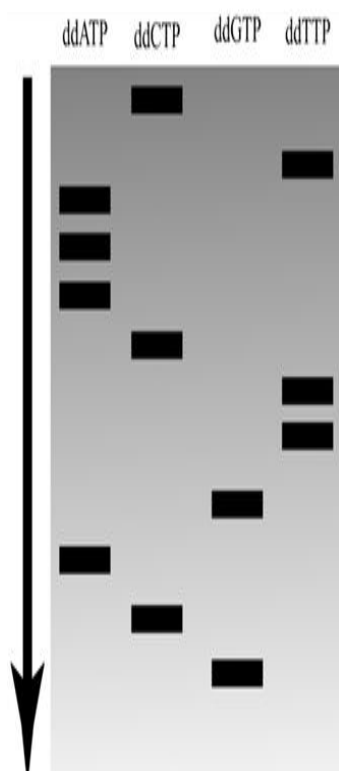
31. In the diagnosis of Tuberculosis, the older methods depended on culturing the causative bacillus from sputum. Newer methods include PCR-based assays . (5) {1+2+2}

- a) What is the principle of PCR-based assay
- b) Explain the steps of the process with neat & labelled diagrams.
- c) How is PCR-based method more effective than culturing methods ?

OR

(5) {1+2+1+1}

- a) Write down the structure of dNTP & ddNTP
- b) Read autoradiogram given below and deduce the DNA sequence from it.
- c) What is the sequence of the original DNA?
- d) What is the chain terminator in Sanger's Method of DNA Sequencing ? Why is it called so?



32. A diagnostic company has developed a kit of antibody which can detect Covid-19 antigen in nasal swabs . (5) {1+2+2}
- a) What type of antibody is it ?
- b) Explain in detail the process involved in production of this antibody
- c) How does it differ from antibodies that naturally present in blood

OR

(5) {1+1+1+2}

- a. What are Embryonic Stem (ES) cells ?
- b. Where from these cells are derived ?
- c. How are they maintained in culture?
- d. Mention any 2 properties of ES cells.

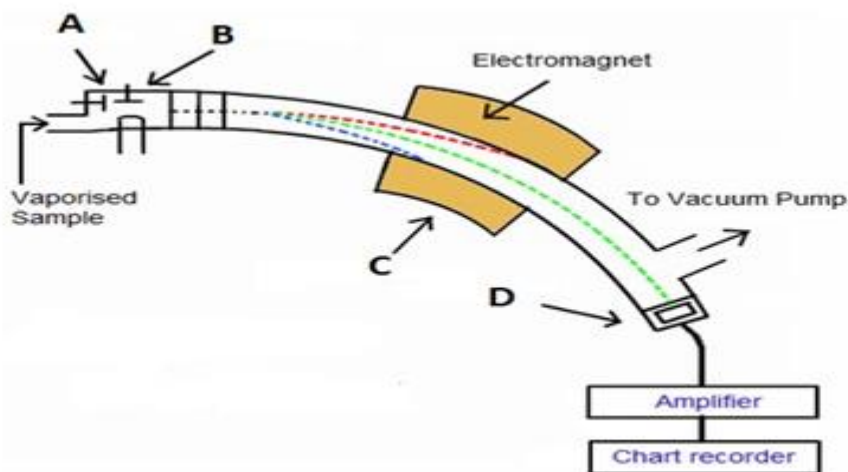
33. How does V.M Ingram prove that sickle cell anaemia results from an amino acid substitution in Haemoglobin ? Elaborate the process in detail with flow chart. (5) {3+2}

OR

In the diagram given below :

(5) {2+1+2}

- a. Identify A, B, C and D
- b. Name & explain any one technique that is carried out in part A of the instrument .
- c. Calculate the m/z ratio of a polypeptide that has a mass of 20 000 Da and charges +1, +2, +4, +5.



KENDRIYA VIDYALAYA SANGATHAN, BHUBANESWAR REGION

PRE BOARD EXAMINATION 2025-26

CLASS: XII

SUBJECT: COMPUTER SCIENCE (083)

Maximum Marks: 70

Time allowed: 3 Hours

General Instructions:

- This question paper contains 37 questions.
- All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions.
- The paper is divided into 5 Sections- A, B, C, D and E.
- Section A consists of 21 questions (1 to 21). Each question carries 1 Mark.
- Section B consists of 7 questions (22 to 28). Each question carries 2 Marks.
- Section C consists of 3 questions (29 to 31). Each question carries 3 Marks.
- Section D consists of 4 questions (32 to 35). Each question carries 4 Marks.
- Section E consists of 2 questions (36 to 37). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only.
- In-case of MCQ, text of the correct answer should also be written.

Q No.	Section-A (21 x 1 = 21 Marks)	Marks
1	State if the following statement is True or False: import random print(random.random()) will generate a floating point as $0.0 \leq N \leq 1.0$	1
2	What will be the output of the following code? L=[10,20,30,40] print(L[6: : -2])	1
3	Consider the given expression: print(25/5 or 2.0+ 20/10) Which of the following will be the correct output of the given expression? a) 5 b) 5.0 c) 7.0 d) 4.0	1
4	In SQL, which type of Join(s) does not contain duplicate column(s)?	1
5	What will be the output of the following Python code? s = "PYTHON" print(s[-4:1:-1]) a) YTP b) HTYP c) T d) HTY	1
6	Write the output of the following Python code : for i in range(1,5): print(i,end=" ") if i==3: break	1
7	What will be the output of the following Python statement: print(10-3**2**2+44/2)	1
8	Consider the given MySQL Query: SELECT SUBJECT,COUNT(*) from STUDENT group by SUBJECT where SUBJECT='PHYISCS' or SUBJECT='COMPUTER SC'; Archita is executing the query but not getting the correct output. Write the correction.	1
9	Which is the must execute block in Python program with Exception handing ? a) try b) except c) finally d) all of these	1
10	What will be the output of the following Python code? d = {True: 'Yes', 1: 'No', 1.0: 'Maybe'} print(d) a) {True: 'Yes', 1: 'No', 1.0: 'Maybe'} b) {True: 'Maybe'} c) {True: 'No'} d) {1: 'Maybe'}	1

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Q No.	Section-B (7 x 2=14 Marks)	Marks
22	<p>A.Explain the difference between explicit and implicit type conversion in Python with a suitable example.</p> <p style="text-align: center;">OR</p> <p>B. Explain the difference between Keyword and Identifier with a suitable example.</p>	2
23	<p>Sai Harshita, a Python programmer, is working on a project in which she wants to write a function to count the number of even and odd values in the list. She has written the following code but her code is having errors. Rewrite the correct code and underline the corrections made.</p> <pre> define EOCOUNT(L): even_no = odd_no = 0 for i in range(0,len(L)) if L[i]%2=0: even_no+=1 else: odd_no+=1 print(even_no, odd_no) </pre>	2
24	<p>A. (Answer using Python built-in methods/functions only):</p> <p>I. Write a statement to change the first letter of the sentence “very good work done “ to capital</p> <p>II. Write a statement to remove the first occurrence of the element of list L1.</p> <p style="text-align: center;">OR</p> <p>B. Predict the output of the following Python code:</p> <pre> Text="Python is a funny language" print(Text.partition("program")) print(Text.split("n")) </pre>	2
25	<p>A. Write a function Sorted_data() in Python that accepts a list L . The list L should be sorted in descending order, kept it in a different list and must return the new list.</p> <p style="text-align: center;">OR</p> <p>B. Write a Python function highest_scorer() that accepts a dictionary D1 containing Name and scores. The function should find the name of the highest scorer of the student and print it.</p>	2
26	<p>Predict the output of the Python code given below :</p> <pre> fruit = { } f1= ['Apple', 'Banana', 'apple', 'Banana'] for index in f1 : if index in fruit: fruit[index] += 1 else: fruit[index] = 1 print(fruit) </pre>	2
27	<p>A. Write suitable commands to do the following in MySQL.</p> <p>I. View the list of databases present.</p> <p>II. use the database “KVS”</p> <p style="text-align: center;">OR</p> <p>B. Differentiate between DDL/DML query in SQL with a suitable example.</p>	2
28	<p>A. Define the following terms:</p> <p>I. Bridge</p> <p>II. Gateway</p> <p style="text-align: center;">OR</p> <p>B.</p> <p>I. Expand the following terms: VoIP and SMTP</p> <p>II. Differentiate between web server and web browser.</p>	2

Q No.	Section-C (3 x 3 = 09 Marks)	Marks
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29	<p>A. Write a Python function that count and display the number of three letters words appears in a text file named "File.txt".</p> <p style="text-align: center;">OR</p> <p>B. Write and call a Python function to read lines from a text file STORIES.TXT and display those lines which starts with a vowel (A, E, I, O, U) irrespective of their case.</p>	3
30	<p>A list contains following record of a student: [student_name, age, hostel] Write the following user defined functions to perform given operations on the stack named 'stud_details': (i) Push_element() - To Push an object containing name and age of students who live in hostel "Ganga" to the stack (ii) Pop_element() - To Pop the objects from the stack and display them. Also, display "Stack Empty" when there are no elements in the stack.</p> <p>For example: If the lists of customer details are: ["Deepesh", 17, "Ganga"] ["Anish", 16, "Kaveri"] ["Dipak", 19, "Yamuna"] The output should be: ["Deepesh", 17, "Ganga"] Stack Empty</p>	3
31	<p>A. Predict the output of the following Python code:</p> <pre>str="Fun@Python3.0" m="" for i in range(0,int(len(str)/2)): if(str[i].isupper()): m=m+str[i].lower() elif str[i].islower(): m=m+str[i].upper() else: if i%2==0: m=m+str[i-1] else: m=m+"#" print(m)</pre> <p style="text-align: center;">OR</p> <p>B. Predict the output of the following Python code:</p> <pre>student = {'Biswa': [78, 82, 89], 'Subhashree: [90, 85, 92], 'Rohan': [67, 73, 70]} student['Subhashree'][1] = 95 student['Biswa'].append(88) student['Rohan'] = student['Rohan'][1:] for name in sorted(student.keys()): print(name, ">", student[name])</pre>	3

Q No.	Section-D (4 x 4 = 16 Marks)	Marks																														
32	<p>Consider the table ORDERS as given below:</p> <p style="text-align: center;">TABLE- ORDER</p> <table><tr><th>O_Id</th><th>C_Name</th><th>Product</th><th>Quantity</th><th>Price</th></tr><tr><td>1001</td><td>Jitendra</td><td>Laptop</td><td>1</td><td>12000</td></tr><tr><td>1002</td><td>Mustafa</td><td>Smartphone</td><td>2</td><td>10000</td></tr><tr><td>1003</td><td>Dhwani</td><td>Headphone</td><td>1</td><td>1500</td></tr><tr><td>1004</td><td>Alice</td><td>Smartphone</td><td>1</td><td>9000</td></tr><tr><td>1005</td><td>David</td><td>Tablet</td><td>NULL</td><td>7000</td></tr></table> <p>A) Write the SQL commands :</p> <p>a. To display the total Quantity for each Product, excluding Products with total Quantity less than 5.</p> <p>b. To display the ORDERS table sorted by total price in descending order.</p> <p>c. To display the distinct customer names from the ORDERS table.</p> <p>d. To display the sum of the Price of all the orders for which the quantity is NULL</p> <p style="text-align: center;">OR</p>	O_Id	C_Name	Product	Quantity	Price	1001	Jitendra	Laptop	1	12000	1002	Mustafa	Smartphone	2	10000	1003	Dhwani	Headphone	1	1500	1004	Alice	Smartphone	1	9000	1005	David	Tablet	NULL	7000	4
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1005	David	Tablet	NULL	7000																												

	<p>B) Write the output:</p> <p>a. SELECT C_Name, SUM(Quantity) AS Total_Quantity FROM ORDERS GROUP BY C_Name;</p> <p>b. SELECT * FROM ORDERS WHERE Product LIKE '%phone%';</p> <p>c. SELECT O_Id, C_Name, Product, Quantity, Price FROM ORDERS WHERE Price BETWEEN 1500 AND 12000;</p> <p>d. SELECT MAX(Price) FROM ORDERS;</p>																																																													
33	<p>Mr Dipak is the manager of a stationery shop. To maintain daily sales, she created a CSV file Stationery.csv with columns: Item_ID, Item_Name, Quantity_Sold, and Rate.</p> <p>Write Python functions to:</p> <p>i. AddItem() – to accept item details from the user and append them to the CSV file</p> <p>ii. TotalEarning() – to calculate and return the total earning from all items.</p>	4																																																												
34	<p>Karunamay is managing a Travel Database and needs to access certain information from the TRANSPORT and JOURNEY tables for an upcoming tourism survey. Help him extract the required information by writing the appropriate SQL queries as per the tasks mentioned below:</p> <p style="text-align: center;">Table: TRANSPORT</p> <table><tr><th>CODE</th><th>VTTYPE</th><th>PERKM</th></tr><tr><td>101</td><td>VOLVO BUS</td><td>160</td></tr><tr><td>102</td><td>AC DELUXE BUS</td><td>150</td></tr><tr><td>103</td><td>ORIDINARY BUS</td><td>90</td></tr><tr><td>104</td><td>CAR</td><td>20</td></tr><tr><td>105</td><td>SUV</td><td>40</td></tr></table> <p style="text-align: center;">Table: JOURNEY</p> <table><tr><th>No</th><th>NAME</th><th>TDATE</th><th>KM</th><th>CODE</th><th>NOP</th></tr><tr><td>101</td><td>Janish Kin</td><td>2015-11-13</td><td>200</td><td>101</td><td>32</td></tr><tr><td>103</td><td>Vedika Sahai</td><td>2016-04-21</td><td>100</td><td>103</td><td>45</td></tr><tr><td>105</td><td>Tarun Ram</td><td>2016-03-23</td><td>350</td><td>102</td><td>42</td></tr><tr><td>102</td><td>John Fen</td><td>2016-02-13</td><td>90</td><td>102</td><td>40</td></tr><tr><td>107</td><td>Ahmed Khan</td><td>2015-01-10</td><td>75</td><td>104</td><td>02</td></tr><tr><td>104</td><td>Raveena</td><td>2016-05-28</td><td>80</td><td>105</td><td>04</td></tr></table> <p>a. To display NO, NAME, TDATE from the table TRANSPORT in descending order of NO.</p> <p>b. To display the NAME of all the travellers from the table TRANSPORT who are travelling by vehicle with code 101 or 102.</p> <p>c. To display the NO and NAME of those travellers from the table TRANSPORT who travelled between '2015-12-31' and '2015-04-01'.</p> <p>d. i)To display all the details from table TRANSPORT for the travellers, who have travelled distance more than 100 KM in ascending order of NOP?</p> <p style="text-align: center;">OR</p> <p>ii) To display the Cartesian Product of the two tables.</p>	CODE	VTTYPE	PERKM	101	VOLVO BUS	160	102	AC DELUXE BUS	150	103	ORIDINARY BUS	90	104	CAR	20	105	SUV	40	No	NAME	TDATE	KM	CODE	NOP	101	Janish Kin	2015-11-13	200	101	32	103	Vedika Sahai	2016-04-21	100	103	45	105	Tarun Ram	2016-03-23	350	102	42	102	John Fen	2016-02-13	90	102	40	107	Ahmed Khan	2015-01-10	75	104	02	104	Raveena	2016-05-28	80	105	04	4
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35	<p>Omm Subham wants to write a program in Python to insert the following record in the table named Bank_Account in MySQL database, Bank :</p> <ul style="list-style-type: none">• Accno – integer• Cname – string• Atype – string• Amount – float <p>Note the following to establish connectivity between Python and MySQL : .</p> <p>Username – admin · Password – root · Host – localhost</p> <p>The values of fields Accno, Cname, Atype and Amount have to be accepted from the user. Help Omm Subham to write the program in Pvython.</p>	4																																																												

Q No.	Section-E (3 x 5 = 15 Marks)	Marks																													
36	<p>Mr Biswa, a hospital administrator, wants to maintain patients' details in a binary file PATIENT.DAT. Each record includes: Patient_ID, Name, Age, and Disease.</p> <p>Write Python functions to: AddPatient() – to input patient details and append them to the binary file PATIENT.DAT. SearchPatient() – to display details of the patient whose Disease is "Fever"</p>	2+3																													
37	<p>Ankita Industries has set up its new center at Bhubaneswar for its office and web-based activities. The company compound has 4 buildings as shown in the diagram below:</p> <p>As a Network Expert, need to suggest the best network-related solutions for them to resolve the issues/problems mentioned in questions (i) to (v), keeping the following parameters in mind :</p> <div style="text-align: center;"><p>ANKITA INDUSTRIES</p><div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"><p style="text-align: center;">BHUBANESWAR CAMPUS</p><div style="display: flex; justify-content: space-around; margin: 10px 0;"><div style="border: 1px solid black; padding: 5px; text-align: center;">JAGANNATH BLOCK</div><div style="border: 1px solid black; padding: 5px; text-align: center;">BALABHADRA BLOCK</div></div><div style="display: flex; justify-content: space-around; margin: 10px 0;"><div style="border: 1px solid black; padding: 5px; text-align: center;">SUBHADRA BLOCK</div><div style="border: 1px solid black; padding: 5px; text-align: center;">SUDARSHAN BLOCK</div></div></div></div> <p>BLOCK TO BLOCK DISTANCES (IN METERS)</p> <table><tr><th>FROM</th><th>TO</th><th>DISTANCE</th></tr><tr><td>JAGANNATH BLOCK</td><td>BALABHADRA BLOCK</td><td>34</td></tr><tr><td>JAGANNATH BLOCK</td><td>SUDARSHAN BLOCK</td><td>105</td></tr><tr><td>JAGANNATH BLOCK</td><td>SUBHADRA BLOCK</td><td>125</td></tr><tr><td>BALABHADRA BLOCK</td><td>SUBHADRA BLOCK</td><td>67</td></tr><tr><td>BALABHADRA BLOCK</td><td>SUDARSHAN BLOCK</td><td>56</td></tr><tr><td>SUDARSHAN BLOCK</td><td>SUBHADRA BLOCK</td><td>110</td></tr></table> <p>Number of Computers in each block is as follows:</p> <table><tr><td>JAGANNATH BLOCK</td><td>26</td></tr><tr><td>BALABHADRA BLOCK</td><td>150</td></tr><tr><td>SUBHADRA BLOCK</td><td>17</td></tr><tr><td>SUDARSHAN BLOCK</td><td>27</td></tr></table> <p>(i) Suggest a cable layout of connections between the Blocks. (ii) Suggest the most suitable place (i.e. block) to house the server of this organization with a suitable reason. (iii) Suggest the placement of the following devices with appropriate reasons: a. Hub / Switch b. Repeater (iv) The organization is planning to link its sale counter situated LEH. Which technology of internet will be connected without compromising good speed. (v) (a) Suggest a device/software to be installed in the Campus to take care of data security. OR (b) What type of network (PAN, LAN, MAN, or WAN) will be set up among the computers connected in above mentioned diagram?</p>	FROM	TO	DISTANCE	JAGANNATH BLOCK	BALABHADRA BLOCK	34	JAGANNATH BLOCK	SUDARSHAN BLOCK	105	JAGANNATH BLOCK	SUBHADRA BLOCK	125	BALABHADRA BLOCK	SUBHADRA BLOCK	67	BALABHADRA BLOCK	SUDARSHAN BLOCK	56	SUDARSHAN BLOCK	SUBHADRA BLOCK	110	JAGANNATH BLOCK	26	BALABHADRA BLOCK	150	SUBHADRA BLOCK	17	SUDARSHAN BLOCK	27	5
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KENDRIYA VIDYALAYA SANGATHAN BHUBANESWAR REGION
PRE-BOARD EXAMINATION 2025-26
CLASS XII

SUBJECT - INFORMATICS PRACTICES (065)

TIME: 3 HOURS

M.M.70

General Instructions: <ul style="list-style-type: none"> Please check this question paper contains 37 questions. All questions are compulsory. The paper is divided into 5 Sections- A, B, C, D and E. Section A consists of 21 questions (1 to 21). Each question carries 1 Mark. Section B consists of 7 questions (22 to 28). Each question carries 2 Marks. Section C consists of 4 questions (29 to 32). Each question carries 3 Marks. Section D consists of 2 case study type questions (33 to 34). Each question carries 4 Marks. Section E consists of 3 questions (35 to 37). Each question carries 5 Marks. All programming questions are to be answered using Python Language only. In case of MCQ, text of the correct answer should also be written. 		
SECTION A (21x1=21 Marks) Section A consists of 21 questions (1 to 21). Each question carries 1 Mark.		
QUESTION		MARKS
1	State Whether the following statement is True or False: The rename() always makes changes in the default dataframe.	1
2	What will be the result of the following SQL Query? SELECT ROUND(3.12564,2); A. 3.13 B. 3.12 C. 3.00 D. 4.00	1
3	Ramesh was unable to understand how the recruiters were able to know about his digital activity when he had not shared anything with them. The recruiters might have checked. A. Carbon Footprint B. Water Footprint C. Online print of Rama. D. Digital Footprint	1
4	Which of the following Python statement is used to read data from a CSV file to a DataFrame A. pandas.csvread() B. pandas.read_csv() C. pandas.csv_read() D. pandas.readcsv()	1
5	The device used to connect two networks using different protocols is: A. Router B. Repeater C. Gateway D. Hub	1
6	What is the position of "SQL" in following Query: SELECT INSTR('Learn SQL Programming', 'SQL'); A. 9 B. 8 C. 7 D. 6	1

7	<p>After practical, Soumya left the computer laboratory but forgot to sign off from her email account. Later, her classmate Ravindra started using the same computer. He is now logged in as Soumya. He sends inflammatory email messages to few of his classmates using Soumya's email account. Ravindra's activity is an example of which of the following cyber crime?</p> <p>A. Hacking B. Identity theft C. Cyber bullying D. Plagiarism</p>	1
8	<p>Which of the following best describes the index in a Pandas Series?</p> <p>A. A row number in a table B. A name given to the Series C. A data label associated with each value in the Series D. The length of the Series</p>	1
9	<p>A relation contains 4 rows and 3 columns. What is the degree and cardinality of the relation?</p> <p>A. Both are 4 B. Both are 3 C. 4 and 3 Respectively D. 3 and 4 Respectively</p>	1
10	<p>Which protocol allow us to have voice calls over the internet?</p> <p>A. HTTP B. VoIP C. Video Chat D. SMTP</p>	1
11	<p>What is the difference between COUNT (DISTINCT column) and COUNT(column)?</p> <p>A. COUNT (DISTINCT column) counts only unique values, while COUNT(column) counts all non-NULL values B. COUNT (DISTINCT column) counts all values including NULL, while COUNT(column) counts only unique values C. They are exactly the same D. COUNT (DISTINCT column) always returns a lower count than COUNT(column)</p>	1
12	<p>Which of the following command is used to display the last three elements of a series, 'S' ?</p> <p>A. S.Tail B. S.tail() C. S.tail(3) D. S.Tail(3)</p>	1
13	<p>What is the name of the IT Law that India is having in the Indian Legislature?</p> <p>A. India's Technology (IT) Act 2000 B. India's Digital information Technology (DIT) Act ,2000 C. The Information Technology Act ,2000 D. The Technology Act ,2008</p>	1
14	<p>What is the correct order of clauses in a SQL query that includes GROUP BY?</p> <p>A. SELECT, GROUP BY, FROM, WHERE B. SELECT, FROM, WHERE, GROUP BY C. SELECT, FROM, GROUP BY, WHERE D. FROM, SELECT, WHERE, GROUP BY</p>	1
15	<p>What will be the output of pd.DataFrame([10, 20, 30])?</p> <p>A. A DataFrame with one column and three rows B. A DataFrame with three columns and one row C. An error D. A Series</p>	1

16	Bluetooth devices such as wireless headsets typically form which type of network? A. PAN B. LAN C. WAN D. MAN	1
17	Which of the following is a correct query with respect to the relation book(book_name, price). A. UPDATE book SET price AS 50; B. UPDATE TABLE book SET price = 10; C. UPDATE book SET price = 10; D. All are incorrect	1
18	Give the output of the following code: import pandas as pd df = pd.DataFrame({'A': [11, 12], 'B': [23, 24]}) print(df.shape) A. (2, 2) B. (2, 1) C. (1, 2) D. (4,)	1
19	What will happen if we use ORDER BY with a column that contains NULL values? A. NULL values will be sorted first B. NULL values will be sorted last C. NULL values will cause an error D. NULL values will be excluded from the result	
Q20 and 21 are ASSERTION(A) AND REASONING (R) based questions. Mark the correct choice as : a) Both A and R are true and R is the correct explanation for A b) Both A and R are true and R is not the correct explanation for A c) A is True but R is False d) A is false but R is True		
20	Assertion (A): A list of dictionaries can be passed to form a DataFrame. Reason (R): Keys of the dictionary are taken as row names by default.	1
21	Assertion (A): The BETWEEN operator includes both boundary values. Reason (R): BETWEEN 10 AND 20 includes 10 and 20 in the result.	1
<p align="center">SECTION B (7x2=14 Marks) Section B consists of 7 questions (22 to 28). Each question carries 2 Marks</p>		
22	A) What are the key features of a Pandas Series? OR B) Can the data type in a Series be mixed? Explain briefly	2
23	What is a web browser? Name any two commonly used browsers.	2
24	Write python code to create the Series EMP with following data (using List) E1 Sanya E2 Krish E3 Rishav E4 Deepak dtype: object	2
25	A) List any two health hazards related to excessive use of Technology. OR B) What measures can you take to curb online frauds?	2
26	Write SQL query to perform the following: i. Display the full month name of "2025-05-12" ii. Show the first 3 characters of the string "Digital India"	2

27	Explain how a digital footprint can affect a person's privacy and professional reputation. Give one example.	2																													
28	<p>A) Write the output of the following Code:</p> <pre>import pandas as pd data ={'a':0,'b':1.,'c':2.} s =pd.Series(data,index=['b','c','d','a']) print(s)</pre> <p style="text-align: center;">OR</p> <p>B) Give the output for the following code.</p> <pre>import pandas as pd data = [{'a': 1, 'b': 2},{ 'a': 5, 'b': 10, 'c': 20}] df1 = pd.DataFrame(data, index=['first', 'second'], columns=['a', 'b1']) print(df1)</pre>	2																													
<p style="text-align: center;">SECTION C (4x3=12)</p> <p style="text-align: center;">Section C consists of 4 questions (29 to 32).</p> <p style="text-align: center;">Each question carries 3 Marks.</p>																															
29	<p>Smita, recently started using her social media account. Within a few days, she becomes friends with many people she knows and some that she does not know. After some time, she starts getting negative comments on her posts. She also finds that her pictures are being shared online without her permission.</p> <p>Based on the given information, answer the questions given below.</p> <ul style="list-style-type: none">i. Identify the type of cybercrime she is a victim of.ii. Under which act, she can lodge a complaint with relevant authorities?iii. Suggest any two precautionary measures which she should take in future while being online to avoid any such situations.	3																													
30	<p>A) Consider the following DataFrame “INFO”</p> <table><tr><td></td><td>City</td><td>Hospitals</td></tr><tr><td>0</td><td>Delhi</td><td>189</td></tr><tr><td>1</td><td>Mumbai</td><td>208</td></tr><tr><td>2</td><td>Kolkata</td><td>149</td></tr><tr><td>3</td><td>Chennai</td><td>157</td></tr></table> <p>Write python pandas code to create the above dataframe using List of Dictionary</p> <p style="text-align: center;">OR</p> <p>B) Consider the following Series S1 having</p> <table><tr><td>COUNTRY</td><td>GDP</td></tr><tr><td>INDIA</td><td>9</td></tr><tr><td>CHINA</td><td>10</td></tr><tr><td>JAPAN</td><td>8</td></tr><tr><td>SRILANKA</td><td>5</td></tr><tr><td>PAKISTAN</td><td>3</td></tr><tr><td>NEPAL</td><td>7</td></tr></table> <p>Write python pandas code to create the above Series using ndarray.</p>		City	Hospitals	0	Delhi	189	1	Mumbai	208	2	Kolkata	149	3	Chennai	157	COUNTRY	GDP	INDIA	9	CHINA	10	JAPAN	8	SRILANKA	5	PAKISTAN	3	NEPAL	7	3
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31	<p>i. Write an SQL statement to create a table named STUDENT, with the following specifications:</p> <table><tr><td>Column Name</td><td>Data Type</td><td>Key</td></tr><tr><td>Admnno</td><td>Char(6)</td><td>Primary Key</td></tr><tr><td>Name</td><td>Varchar(30)</td><td></td></tr><tr><td>DOB</td><td>Date</td><td></td></tr><tr><td>Admndate</td><td>Date</td><td></td></tr><tr><td>Mark</td><td>Integer(3)</td><td></td></tr></table> <p>ii. Write SQL Query to insert the following data in the Employee Table 001221, Ramesh Chouhan, 2011/06/19, 2019/05/25, 435</p>	Column Name	Data Type	Key	Admnno	Char(6)	Primary Key	Name	Varchar(30)		DOB	Date		Admndate	Date		Mark	Integer(3)		2+1											
Column Name	Data Type	Key																													
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Admndate	Date																														
Mark	Integer(3)																														

32	<p>A. Consider the following Relations:</p> <p>Table: LOAN</p> <table><tr><th>Loan_Number</th><th>Branch_name</th><th>Amount</th></tr><tr><td>L-170</td><td>Bhubaneshwar</td><td>30000</td></tr><tr><td>L-230</td><td>Cuttack</td><td>40000</td></tr><tr><td>L-650</td><td>Puri</td><td>55000</td></tr><tr><td>L-150</td><td>Bhubaneshwar</td><td>28000</td></tr><tr><td>L-450</td><td>Cuttack</td><td>45000</td></tr></table> <p>Table: BORROWER</p> <table><tr><th>Customer_ID</th><th>Customer_Name</th><th>Loan_number</th></tr><tr><td>C001</td><td>Sambit</td><td>L-170</td></tr><tr><td>C002</td><td>Rahul</td><td>L-650</td></tr><tr><td>C003</td><td>Smita</td><td>L-150</td></tr><tr><td>C004</td><td>Abhishek</td><td>L-450</td></tr><tr><td>C005</td><td>Barun</td><td>L-230</td></tr></table> <p>Write appropriate SQL queries for the following:</p> <ul style="list-style-type: none">i. Display Branch Name wise Total amountii. List all branch name in the decreasing order of Amountiii. Display Loan number along with Customer ID and customer name <p>OR</p> <p>B. Consider the following Relations:</p> <p>Table : Book</p> <table><tr><th>Book_id</th><th>Book_name</th><th>Author_name</th><th>Publisher</th><th>Price</th><th>Type</th><th>Quantity</th></tr><tr><td>C0001</td><td>Fast Cook</td><td>Lata Kapoor</td><td>EPB</td><td>355</td><td>Cookery</td><td>5</td></tr><tr><td>F0001</td><td>The Tears</td><td>William Hopkins</td><td>First Publi.</td><td>650</td><td>Fiction</td><td>20</td></tr><tr><td>T0001</td><td>My First c++</td><td>Brain & Brooke</td><td>FPB</td><td>350</td><td>Text</td><td>10</td></tr><tr><td>T0002</td><td>C++ Brain works</td><td>Lata Kapoor</td><td>TDH</td><td>355</td><td>Text</td><td>15</td></tr><tr><td>F0002</td><td>Fast Cook</td><td>Anna Roberts</td><td>First Publ.</td><td>750</td><td>Fiction</td><td>20</td></tr></table> <p>Write appropriate SQL queries for the following:</p> <ul style="list-style-type: none">i. Which Attribute in the table can be considered as Primary Key and Why?ii. Write a suitable SQL query to rename the column Type as Book_Typeiii. Write SQL Query to display publisher wise number of book published	Loan_Number	Branch_name	Amount	L-170	Bhubaneshwar	30000	L-230	Cuttack	40000	L-650	Puri	55000	L-150	Bhubaneshwar	28000	L-450	Cuttack	45000	Customer_ID	Customer_Name	Loan_number	C001	Sambit	L-170	C002	Rahul	L-650	C003	Smita	L-150	C004	Abhishek	L-450	C005	Barun	L-230	Book_id	Book_name	Author_name	Publisher	Price	Type	Quantity	C0001	Fast Cook	Lata Kapoor	EPB	355	Cookery	5	F0001	The Tears	William Hopkins	First Publi.	650	Fiction	20	T0001	My First c++	Brain & Brooke	FPB	350	Text	10	T0002	C++ Brain works	Lata Kapoor	TDH	355	Text	15	F0002	Fast Cook	Anna Roberts	First Publ.	750	Fiction	20	3
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F0002	Fast Cook	Anna Roberts	First Publ.	750	Fiction	20																																																																										
<p align="center">SECTION D (2x4=8)</p> <p align="center">Section D consists of 2 case study type questions (33 to 34). Each question carries 4 Marks.</p>																																																																																
33	<p>During a practical, a student Rajesh has to fill in the blanks in a Python program that generates a bar chart. This bar chart represents the Number and its half as follows.</p> <table><tr><th>SL NO</th><th>Number</th><th>Half</th></tr><tr><td>1</td><td>10</td><td>5</td></tr><tr><td>2</td><td>20</td><td>10</td></tr><tr><td>3</td><td>30</td><td>15</td></tr><tr><td>4</td><td>40</td><td>20</td></tr><tr><td>5</td><td>50</td><td>25</td></tr></table>	SL NO	Number	Half	1	10	5	2	20	10	3	30	15	4	40	20	5	50	25	4																																																												
SL NO	Number	Half																																																																														
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2	20	10																																																																														
3	30	15																																																																														
4	40	20																																																																														
5	50	25																																																																														

Help Rajesh to complete the code:

```
import _____ as plt #Statement-1
import numpy as np
x=np.array([1,2,3,4,5])
y=np.array([10,20,30,40,50])
z=np.array([5,10,15,20,25])
plt.bar(x,y,width=0.3, label='Number')
_____ #Statement-2
plt.xlabel("SL NO")
plt.ylabel("Value")
_____ #Statement-3
_____ #Statement-4
plt.show()
```

- Write suitable code in statement-1 to import the library.
- Refers to the graph above, fill the blank of statement 2 to draw bar graph for Half
- Fill in the blank statement-3 to display legend in the graph
- Fill in the blank in statement-4 with the appropriate Python code to save the graph as an image file named number.png

34

A. Write SQL query with reference to the table: SPORTS

GID	NAME	DATEOFGAME	WINNER	PRIZEMONEY
101	JUDO	2022-10-17	RAGHAV	17000
102	BADMINTON	2022-05-18	KIRAN	14000
103	JUDO	2022-08-18	KAMAL	19000
104	TAEKWONDO	2021-07-20	AHMED	14000
105	CHESS	2021-05-06	AKHIL	17000

- Display Sports name in lower case.
- Display Winner along with the name of the Month of Date of Game when it held.
- Display Average of Prize Money.
- Display sports name and winner having winner name start with 'K' and prize money more than 15000.

OR

B. Write output of the following SQL queries with reference to the Table: RESULT

SLNO	NAME	STIPEND	SUBJECT	AVERAGE	DIV.
11	KARAN	400	PHYSICS	68.47	I
12	DIWAKAR	450	COMP. Sc.	68.52	I
13	DIVYA	300	CHEMISTRY	40.23	III
14	REKHA	350	PHYSICS	63.75	I
15	ARJUN	500	MATHS	70.47	I
16	SABINA	400	CEHMISTRY	55.25	II
17	JOHN	250	PHYSICS	64.72	I
18	ROBERT	450	MATHS	38.87	III
19	RUBINA	500	COMP. Sc.	62.98	I
20	VIKAS	400	MATHS	57.94	II

- Select MIN(AVERAGE) from RESULT where SUBJECT="MATHS";
- Select RIGHT(NAME,3) from RESULT where STIPEND>395;
- Select LOWER(NAME),SUBJECT from RESULT where AVERAGE between 50 and 60;
- Select SUBJECT, ROUND(AVERAGE,1) from RESULT where STIPEND > 430;

4

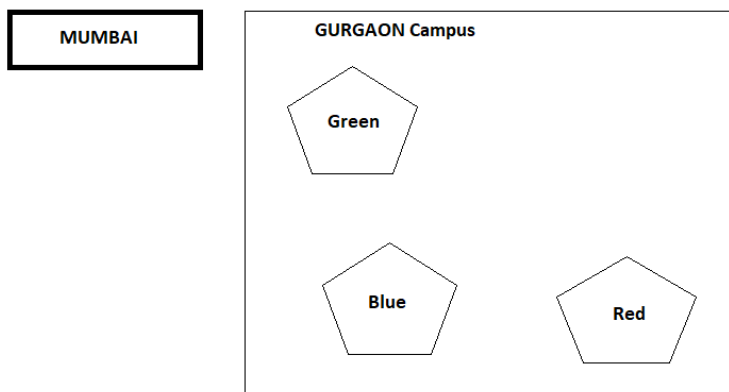
SECTION E (3x5=15)

Section E consists of 3 questions (35 to 37).

Each question carries 5 Marks.

- 35 XYZ Ltd is setting up a secured network for office campus at Gurgaon for day-to-day office and web-based activities. The Company planning to have connectivity between three buildings and the head office situated in Mumbai.

Answer the questions (i) to (v) after going through the building positions in the campus and other details, which are given below:



Distance between various building are as follows:

Building GREEN to Building RED	110 Mts
Building GREEN to Building BLUE	45 Mts
Building BLUE to Building RED	65 Mts
Gurgaon Campus to Head Office	1760 KM

Number of Computers:

GREEN Building	32
BLUE Building	45
RED Building	150
Head Office	10

As a network expert, provide the best possible answer for the followings:

- Suggest a cable layout of connections between the buildings at Gurgaon.
- Suggest the most suitable place (i.e. buildings) to house the server of this organization and why?
- Suggest the placement of the following device with justification:
 - Repeater
 - Hub/Switch
- Suggest a system (hardware/software) to prevent unauthorized access to or from the network.
- What type of Network out of LAN, MAN, WAN formed to connect Mumbai Head Office and Gurgaon ?

- 36 **Consider the following DataFrame DF.**

	Eng	Maths	Science
Priya	80	88	73
Ramya	70	98	81
Kavita	75	77	66
Kanishka	86	96	94
Harshini	90	95	92

Write Python statement for the following task:

- Add a new column Total by adding Eng, Maths and Science mark.
- Print the First 3 rows of the DataFrame.
- Rename the column Eng to "English"
- Delete the column Maths from the DataFrame
- Display details who secured more than 90 mark in Math

37	<p>A. Write Suitable SQL query for the following:</p> <ul style="list-style-type: none"> i. To display the minimum score from the SCORE column (attribute) in the STUDENT table ii. To display the position of sub string 'AR' in the LASTNAME column (attribute) in the EMPLOYEE table. iii. To display the data from the column (attribute) LOCATION in the ADDRESS table, after eliminating any leading and trailing spaces. iv. To display the Cardinality of SALARY table. v. To display Month of the date of birth from the DOB column in the CUSTOMER table <p style="text-align: center;">OR</p> <p>B. Write Suitable SQL query for the following:</p> <ul style="list-style-type: none"> i. To Display first 5 characters from the string 'KVS Regional Office Bhubaneshwar' ii. To display position of first occurrence of 'or' in the string 'Corporate' iii. Calculate and display remainder when 265 is divided by 32. iv. To display Maximum and Minimum Salary from the SALARY column in the STAFF Table. v. Display Year from the date '2025-05-29' 	5
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KENDRIYA VIDYALAYA SANGATHAN, BHUBANESWAR REGION**PRE -BOARD EXAMINATION (2025-26)****CLASS: XII****SUBJECT: ACCOUNTANCY (055)****Set-1****Maximum Marks 80****Maximum Time: 3 Hours****GENERAL INSTRUCTIONS:**

1. This question paper contains 34 questions. All questions are compulsory.
2. Paper is divided into two parts, Part A and B.
3. Question 1 to 16 and 27 to 30 carries 1 mark each.
4. Question 17 to 20, 31 and 32 carries 3 marks each.
5. Question 21,22 and 33 carries 4 marks each.
6. Questions from 23 to 26 and 34 carries 6 marks each.

6. Questions from 25 to 28 and 34 carries 6 marks each.

	Part – A Accounting for Partnership Firms and Companies									
Q No	QUESTIONS	M								
1	<p>According to Profit and Loss Account, the net profit for the year is ₹.15,000. Partners' capital of A & B are ₹1,80,000 and ₹1,20,000 respectively. interest on partner 's capital is 10% p.a. The interest payable to partners as per Profit and Loss Appropriation Account will be:</p> <p>a). A-9,000, B-6,000 b). A-18,000, B-12,000 c). A-7,500, B-7,500 d). None of the above</p>	1								
2	<p>Arun and Vijay are partners in a firm sharing profits and losses in the ratio of 5:1.</p> <p style="text-align: center;">Balance Sheet (an Extract)</p> <table><tr><td>Liabilities</td><td>(₹)</td><td>Assets</td><td>(₹)</td></tr><tr><td></td><td></td><td>Machinery</td><td>40,000</td></tr></table> <p>If machinery in balance sheet is overvalued by $\frac{1}{3}^{\text{rd}}$. find out the value of machinery to be shown in the new balance sheet?</p> <p>a) ₹.44,000 b) ₹.48,000 c) ₹. 32,000 d) ₹.30,000</p>	Liabilities	(₹)	Assets	(₹)			Machinery	40,000	1
Liabilities	(₹)	Assets	(₹)							
		Machinery	40,000							
3	<p>Calculate value of goodwill at 3 year's purchase of super profit, when capital employed is ₹.2,50,000, average profit ₹ 30,000 and normal rate of return is 10%?</p> <p>a) ₹ 3,000 b) ₹ 25,000 c) ₹ 30,000 d) ₹ 15,000</p>	1								
4	<p>A and S were partners with capitals of ₹.3,00,000 and ₹.2,00,000 respectively. B was admitted as a new partner for $\frac{1}{4}^{\text{th}}$ share of profits. B brought ₹.1,20,000 for his share of goodwill and ₹.2,40,000 for capital. The amount of goodwill premium credited to A will be:</p> <p>a) ₹ 40,000 b) ₹ 30,000 c) ₹ 72,000 d) ₹ 60,000</p>	1								
5	<p>Anuradha Ltd. issued 2,00,000, 7% debentures of ₹100 each at a discount of 5%, redeemable at a premium of 5%. On issue of debentures, 'Loss on Issue of Debentures Account' will be:</p> <p>(a) Credited by ₹10,00,000 (b) Debited by ₹10,00,000 (c) Debited by ₹20,00,000 (d) Credited by ₹20,00,000</p>	1								

6	<p>X, Y and Z are partners sharing profits in 3:2:1. Z was guaranteed a minimum profit of ₹.60,000. Any deficiency arising out of this will be borne by X and Y in the ratio of 2:1. Profit for the year ended 31.03.2025 amounted to ₹.2,70,000. How much deficiency will be borne by X?</p> <p>a) ₹.10,000 b) ₹.15,000 c) ₹.5,000 d) ₹.20,000</p>	1								
7	<p>Angle and Circle were partners in a firm. Their Balance Sheet showed: Furniture ₹.2,00,000; Stock ₹.1,40,000; Debtors ₹.1,62,000; Creditors ₹.60,000. Square was admitted and new profit-sharing ratio was agreed at 2:3:5. Stock was revalued at ₹.1,00,000; Creditors of ₹.15,000 are not likely to be claimed; Debtors of ₹.2,000 have become irrecoverable and Provision for doubtful debts to be provided @10%. Angle's share in loss on revaluation amounted to ₹30,000. Revalued value of Furniture will be:</p> <p>(a) ₹.2,17,000 (b) ₹.1,03,000 (c) ₹.3,03,000 (d) ₹.1,83,000</p> <p>(OR)</p> <p>In case of admission of a partner, match the following:</p> <table><tr><td>(i) Increase in value of Building</td><td>(A) debited to Revaluation A/c</td></tr><tr><td>(ii) Existing Goodwill</td><td>(B) credited to Revaluation A/c</td></tr><tr><td>(iii) Accumulated profits</td><td>(C) credited to Old Partners' Capital A/cs</td></tr><tr><td>(iv) Decrease in value of Furniture</td><td>(D) debited to Old Partners' Capital A/cs</td></tr></table> <p>Choose the correct option:</p> <p>(a) (i)-(B), (ii)-(C), (iii)-(D), (iv)-(A) (b) (i)-(B), (ii)-(D), (iii)-(C), (iv)-(A) (c) (i)-(B), (ii)-(A), (iii)-(C), (iv)-(D) (d) (i)-(A), (ii)-(B), (iii)-(D), (iv)-(C)</p>	(i) Increase in value of Building	(A) debited to Revaluation A/c	(ii) Existing Goodwill	(B) credited to Revaluation A/c	(iii) Accumulated profits	(C) credited to Old Partners' Capital A/cs	(iv) Decrease in value of Furniture	(D) debited to Old Partners' Capital A/cs	1
(i) Increase in value of Building	(A) debited to Revaluation A/c									
(ii) Existing Goodwill	(B) credited to Revaluation A/c									
(iii) Accumulated profits	(C) credited to Old Partners' Capital A/cs									
(iv) Decrease in value of Furniture	(D) debited to Old Partners' Capital A/cs									
8	<p>X and Y share profits in the ratio of 3:2. Z was admitted as a partner who gets 1/5 share. Z acquires 3/20 from X and 1/20 from Y. The new profit sharing ratio will be :</p> <p>(a) 9 : 7 : 4 (b) 8 : 8 : 4 (c) 6 : 10 : 4 (d) 10 : 6 : 4</p>	1								
9	<p>A, B and C are partners, their deed provides for interest on drawings @ 8% p.a. B withdrew a fixed amount in the middle of every month and his interest on drawing amounted to ₹4,800 at the end of the year. What was the amount of his monthly drawings?</p> <p>a) ₹ 10,000 b) ₹ 5,000 c) ₹ 1,20,000 d) ₹ 48,000</p>	1								
10	<p>Sujata Ltd. issued 5,000, 7% Debentures of ₹100 each at a premium of 10%. According to the terms of issue, 40% of the amount was payable on application and the balance on allotment. The issue was fully subscribed and all amounts were duly received. The amounts received on application and allotment respectively were:</p> <p>(a) ₹2,50,000 and ₹3,00,000 (b) ₹2,00,000 and ₹3,00,000 (c) ₹2,00,000 and ₹3,50,000 (d) ₹2,00,000 and ₹2,50,000</p>	1								
11	<p>.....is a unique type of debt that does not make periodic interest payments to its holders</p> <p>(a) Equity Share (b) Debenture (c) Bond (d) Preference share</p>	1								

12	<p>Saurabh, Shirin and Somesh are partners in a firm sharing profits and losses in the ratio of 3:2:1. Somesh retires and the new profit sharing ratio between Saurabh and Shirin is 3:2. The gaining ratio between Saurabh and Shirin will be:</p> <p>(a) 3:2 (b) 3:1 (c) 1:1 (d) 2:1</p> <p>OR</p> <p>Khushi, Namita and Manvi were partners in a firm sharing profits and losses in the ratio of 5:2:3. On 30th June, 2022, Khushi died. The partnership deed provided that on the death of a partner, her share of profit till the date of death was to be calculated on the basis of average profit of last three years less ₹10,000. Profits for the last three years were:</p> <p>Year ended 31st March, 2020: ₹1,20,000 Year ended 31st March, 2021: (₹50,000) Year ended 31st March, 2022: ₹1,70,000 Khushi's share of profit till the date of her death was:</p> <p>(a) ₹35,000 (b) ₹9,583 (c) ₹28,750 (d) ₹8,750</p>	1								
13	<p>Realisation expenses of ₹.15,000 were paid by firm on behalf of Vikas, a partner. Which of the following journal entry will be passed?</p> <p>(a) Realisation A/c Dr. ₹15,000 To Cash/Bank A/c ₹15,000 (b) Realisation A/c Dr. ₹15,000 To Vikas's Capital A/c ₹15,000 (c) Vikas's Capital A/c Dr. ₹15,000 To Cash/Bank A/c ₹15,000 (d) None of these</p>	1								
14	<p>A company forfeited 6,000 shares of ₹10 each, on which only application money of ₹3 has been paid. 4,000 of these shares were re-issued at ₹12 per share as fully paid up. Amount of capital reserve will be:</p> <p>(A) ₹18,000 (B) ₹12,000 (C) ₹30,000 (D) ₹24,000</p>	1								
15	<p>On dissolution of a partnership firm, furniture appearing in the Balance Sheet was ₹2,00,000. 50% of the furniture was taken over by a partner at ₹65,000 and balance 50% was sold at 20% less than the book value. The amount debited to bank account was:</p> <p>(a) ₹1,45,000 (b) ₹80,000 (c) ₹65,000 (d) ₹1,85,000</p>	1								
16	<p>Premier Auto Ltd. purchased assets of the value of ₹.3,60,000 from Anand Ltd. and made the payment of purchase consideration by issuing 11% Debentures of ₹.100 each at a discount of 10%. The number of debentures issued by Premier Auto Ltd. were:</p> <p>(a) 3,600 (b) 36,000 (c) 40,000 (d) 4,000</p>	1								
17	<p>L, M and N are partners sharing profits and losses in the ratio of 4:3:2. They decide to share future profits and losses in the ratio of 2:3:4 with effect from 1st April, 2017. An extract of their Balance Sheet as at 31st March, 2017 is:</p> <table><tr><td>Liabilities</td><td>₹.</td><td>Assets</td><td>₹.</td></tr><tr><td>Investments Fluctuation Reserve</td><td>9,000</td><td>Investments (At cost)</td><td>1,00,000</td></tr></table> <p>Show the accounting treatment under the following alternative cases:</p> <p>(i) If the market value of investments is ₹.95,500. (ii) If the market value of investments is ₹.1,09,000. (iii) If the market value of investments is ₹.73,000.</p>	Liabilities	₹.	Assets	₹.	Investments Fluctuation Reserve	9,000	Investments (At cost)	1,00,000	3
Liabilities	₹.	Assets	₹.							
Investments Fluctuation Reserve	9,000	Investments (At cost)	1,00,000							

18	<p>Youth Ltd. took a loan of ₹.15,00,000 from State Bank of India against the security of tangible assets. In addition to principal security, it issued 10,000, 11% debentures of ₹.100 each as collateral security. Pass necessary journal entries for the above transactions, if the company decided to record the issue of 11% debentures as collateral security and show the presentation in the Balance Sheet of Youth Ltd?</p>	3																																				
19	<p>Rohit and Mohit were partners in a firm sharing profits and losses in the ratio of 3:2. Rahul was admitted into partnership for 1/3 share in profits. Goodwill of the firm was valued at ₹.30,000. Rahul brought ₹.40,000 as capital and ₹.5,000 out of his share of goodwill premium in cash. At the time of Rahul's admission, goodwill was appearing in the books of the firm at ₹.15,000.</p> <p>Pass necessary journal entries for the above transactions in the books of the firm on Rahul's admission?</p> <p style="text-align: center;">(OR)</p> <p>Sterling Enterprises is a partnership business with Ryan, Williams and Sania as partners engaged in production and sales of electrical items and equipment.</p> <p>Their capital contributions were ₹.50,00,000, ₹.50,00,000 and ₹.80,00,000 respectively with the profit-sharing ratio of 5:5:8. As they are now looking forward to expand their business, it was decided that they would bring in sufficient cash to double their respective capitals. This was duly followed by Ryan and Williams but due to unavoidable reasons, Sania could not do so and ultimately it was agreed that to bridge the shortfall in the required capital, a new partner should be admitted who would bring in the amount that Sania could not bring and that the new partner would get a share of profits equal to half of Sania's share which would be sacrificed by Sania only. Consequent to this agreement, Ejaz was admitted and he brought in the required capital and ₹.30,00,000 as premium for goodwill.</p> <p>Questions:</p> <p>(i) What will be the new profit-sharing ratio of Ryan, Williams, Sania and Ejaz?</p> <p>(a) 1:1:1:1 (b) 5:5:8:8 (c) 5:5:4:4 (d) None of the above</p> <p>(ii) What is the amount of capital brought in by the new partner Ejaz?</p> <p>(a) ₹.50,00,000 (b) ₹.80,00,000 (c) ₹.40,00,000 (d) ₹.30,00,000</p> <p>(iii) What is the value of the goodwill of the firm?</p> <p>(a) ₹.1,35,00,000 (b) ₹.30,00,000 (c) ₹.1,50,00,000 (d) Cannot be determined from the given data</p>	3																																				
20	<p>Elina, Ferry and Gauri were partners in a firm sharing profits in the ratio of 2:2:1. On 30th September, 2021, their firm was dissolved. On the date of dissolution, the Balance Sheet of the firm was as follows:</p> <p style="text-align: center;">Balance Sheet as at 31st March, 2021</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 35%;">Liabilities</th><th style="width: 10%;">₹</th><th style="width: 35%;">Assets</th><th style="width: 10%;">₹</th></tr> <tr> <td>Capital Accounts</td><td></td><td>Gauri's Capital Account</td><td>500</td></tr> <tr> <td> Elina</td><td>1,30,000</td><td>Profit and Loss Account</td><td>10,000</td></tr> <tr> <td> Ferry</td><td>1,00,000</td><td>Land and Building</td><td>1,00,000</td></tr> <tr> <td>Creditors</td><td>45,000</td><td>Furniture</td><td>50,000</td></tr> <tr> <td>Outstanding Expenses</td><td>17,000</td><td>Machinery</td><td>90,000</td></tr> <tr> <td></td><td></td><td>Debtor</td><td>36,500</td></tr> <tr> <td></td><td></td><td>Bank</td><td>5,000</td></tr> <tr> <td></td><td style="border-top: 1px solid black; border-bottom: 3px double black;">2,92,000</td><td></td><td style="border-top: 1px solid black; border-bottom: 3px double black;">2,92,000</td></tr> </table>	Liabilities	₹	Assets	₹	Capital Accounts		Gauri's Capital Account	500	Elina	1,30,000	Profit and Loss Account	10,000	Ferry	1,00,000	Land and Building	1,00,000	Creditors	45,000	Furniture	50,000	Outstanding Expenses	17,000	Machinery	90,000			Debtor	36,500			Bank	5,000		2,92,000		2,92,000	3
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		Bank	5,000																																			
	2,92,000		2,92,000																																			

	<p>The firm was dissolved on the following terms:</p> <p>Ferry was appointed to undertake the process of dissolution for which he was allowed a remuneration of ₹.5,000. Ferry agreed to bear the dissolution expenses. The land and building was sold through a property dealer at a price of 110% of the book value. A commission of 1% on the selling price of land and building was paid to the property dealer.</p> <p>Creditors were payable on an average of 3 months from the date of dissolution. On discharging the creditors on the date of dissolution, they were allowed a discount of 5%. On the basis of the above information, you are to suggest the answers of the following questions:</p> <p>(i) What will be the amount realised from the land and building? (ii) What amount will be payable to the creditors? (iii) What will be the treatment of the dissolution expenses?</p>																																					
21	<p>Rohit, Raman and Raina are partners in a firm. Their capital accounts on 1st April, 2019, stood at ₹.2,00,000, ₹.1,20,000 and ₹.1,60,000 respectively. Each partner withdrew ₹.15,000 during the financial year 2019-20. As per the provisions of their partnership deed:</p> <p>(a) Interest on capital was to be allowed @ 5% per annum. (b) Interest on drawings was to be charged @ 4% per annum. (c) Profits and losses were to be shared in the ratio 5:4:1.</p> <p>The net profit of ₹.72,000 for the year ended 31st March, 2020, was divided equally amongst the partners without providing for the terms of the deed. You are required to pass a single adjustment entry to rectify the error (Show your workings clearly).</p>	4																																				
22	<p>Atishyokti Ltd. was registered with an authorised capital of ₹.20,00,000 divided into 2,00,000 Equity Shares of ₹10 each, payable ₹.3 on application, ₹.6 on allotment (including ₹.1 premium) and balance on call.</p> <p>The company offered 80,000 shares for public subscription. All the money has been duly called and received except allotment and call money on 5,000 shares held by Manish and call money on 4,000 shares held by Alok. Manish's shares were forfeited and out of these 3,000 shares were re-issued at ₹.9 per share as fully paid up.</p> <p>Show share capital in the books of the company. Also prepare notes to accounts.</p>	4																																				
23	<p>Prakash, Aakash and Vikash were partners sharing profits in 2:2:1. Their Balance Sheet was as follows:</p> <table><tr><th colspan="4">Balance sheet As on 31st March, 2022</th></tr><tr><th>Liabilities</th><th>(₹)</th><th>Assets</th><th>(₹)</th></tr><tr><td>Creditors</td><td>2,00,000</td><td>Bank</td><td>40,000</td></tr><tr><td>General Reserve.</td><td>1,00,000</td><td>Stock</td><td>60,000</td></tr><tr><td>Capitals: Prakash</td><td>1,20,000</td><td>Debtors</td><td>1,60,000</td></tr><tr><td>Aakash</td><td>2,00,000</td><td>Investment</td><td>1,40,000</td></tr><tr><td>Vikash</td><td>80,000</td><td>Furniture</td><td>70,000</td></tr><tr><td></td><td></td><td>Building</td><td>2,30,000</td></tr><tr><td></td><td>7,00,000</td><td></td><td>7,00,000</td></tr></table>	Balance sheet As on 31 st March, 2022				Liabilities	(₹)	Assets	(₹)	Creditors	2,00,000	Bank	40,000	General Reserve.	1,00,000	Stock	60,000	Capitals: Prakash	1,20,000	Debtors	1,60,000	Aakash	2,00,000	Investment	1,40,000	Vikash	80,000	Furniture	70,000			Building	2,30,000		7,00,000		7,00,000	6
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		Building	2,30,000																																			
	7,00,000		7,00,000																																			

	<p>Vikas died on 30th September, 2022. On the death of a partner, the partnership deed provided for the following:</p> <p>a) Deceased partner will be entitled to his share of profit up to the date of death calculated on the basis of previous year's profit.</p> <p>b) His share in the Goodwill of the firm, calculated on the basis of 3 years' purchase of average profits of last four years.</p> <p>Profits for the last four years ended 31st March were as follows:</p> <p>2018–19: ₹.1,60,000</p> <p>2019–20: ₹.1,00,000</p> <p>2020–21: ₹.80,000</p> <p>2021–22: ₹.60,000</p> <p>c) Drawings of the deceased partner up to the date of death were ₹.20,000</p> <p>d) Interest on capital was allowed@12% per annum.</p> <p>Prepare Vikas' Capital account to be rendered to his executors.</p>																																													
24	<p>'KLN Ltd.' invited applications for issuing 1,00,000 shares of ₹10 each at a premium of ₹2 per share. The amount was payable as follows:</p> <p>On Application — ₹.3 per share (including a premium ₹.1)</p> <p>On Allotment — ₹.4 per share (including a premium ₹.1)</p> <p>On the First Call — ₹.3 per share</p> <p>On the Second and Final Call — Balance amount</p> <p>Applications for 1,90,000 shares were received. The allotment was made on pro rata basis to 1,50,000 applicants and balance are rejected.</p> <p>Rajat, a shareholder who had applied for 2,400 shares, failed to pay the amount due on the allotment and first call. His shares were immediately forfeited. Out of the forfeited shares1,200 shares were reissued @ ₹.8 per share as fully paid up.</p> <p>Pass the necessary journal entries for the above transactions in the books of 'KLN Ltd'.</p>	6																																												
25	<p>Dhwani and Iknor were partners sharing Profits & Losses in the ratio 3:2. Their Balance Sheet on March 31, 2025 was as follows</p> <table><tr><th>Liabilities</th><th>Amount (₹)</th><th>Assets</th><th>Amount (₹)</th></tr><tr><td>Dhwani's Capital</td><td>2,40,000</td><td>Cash in Hand</td><td>50,000</td></tr><tr><td>Iknor's Capital</td><td>2,60,000</td><td>Building</td><td>3,00,000</td></tr><tr><td>Investment Fluctuation Reserve</td><td>50,000</td><td>Debtors 80,000</td><td>72,000</td></tr><tr><td></td><td></td><td>(-) Prov for Doubtful Debts (8,000)</td><td></td></tr><tr><td>Employee Provident Fund</td><td>50,000</td><td>Stock</td><td>88,000</td></tr><tr><td>General Reserve</td><td>60,000</td><td>Accrued Income</td><td>20,000</td></tr><tr><td>Creditors</td><td>40,000</td><td>Investment</td><td>1,20,000</td></tr><tr><td>Bills Payable</td><td>30,000</td><td>Profit and Loss</td><td>1,00,000</td></tr><tr><td>Bank Overdraft</td><td>20,000</td><td></td><td></td></tr><tr><td></td><td>7,50,000</td><td></td><td>7,50,000</td></tr></table> <p>On the above date, they admitted Ishaan into partnership for 25% share. Ishaan brings ₹.2,50,000 as capital and ₹.40,000 for goodwill. Goodwill of the firm was valued at ₹.2,00,000. The followings were agreed upon: -</p> <p>a) Bad Debts amounted to ₹.5,000 and Provision for doubtful debts to be created at same existing rate.</p> <p>b) Investments were valued at ₹.1,00,000.</p> <p>c) Accrued Income was recovered only of ₹.14,500 in settlement.</p> <p>d) Building was overvalued by 20%.</p> <p>e) Capital of Dhwani and Iknor were to be adjusted on the basis Ishaya's capital contribution.</p> <p>Necessary adjustment to be done by opening Current Accounts. You are required to prepare Revaluation Account and Partner's Capital Account at the time of admission of partner.</p> <p>(Or)</p>	Liabilities	Amount (₹)	Assets	Amount (₹)	Dhwani's Capital	2,40,000	Cash in Hand	50,000	Iknor's Capital	2,60,000	Building	3,00,000	Investment Fluctuation Reserve	50,000	Debtors 80,000	72,000			(-) Prov for Doubtful Debts (8,000)		Employee Provident Fund	50,000	Stock	88,000	General Reserve	60,000	Accrued Income	20,000	Creditors	40,000	Investment	1,20,000	Bills Payable	30,000	Profit and Loss	1,00,000	Bank Overdraft	20,000				7,50,000		7,50,000	6
Liabilities	Amount (₹)	Assets	Amount (₹)																																											
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Aman, Barman and Raman were partners sharing Profits & Losses in the ratio 5:3:2. Their Balance Sheet on March 31, 2025 was as follows

Liabilities	Amount (₹)	Assets	Amount (₹)
Aman's Capital	80,000	Bank	30,000
Barman's Capital	70,000	Building	1,00,000
Raman's Capital	50,000	Furniture	60,000
Workmen Compensation Reserve	50,000	Debtors	50,000
Accumulated Depreciation on Building	20,000	Stock	40,000
Profit and Loss	40,000	Prepaid Expenses	20,000
Creditors	25,000	Deferred Revenue Exp.	20,000
Outstanding Expenses	15,000	Goodwill	30,000
	3,50,000		3,50,000

On the above date Barman retired and his share was acquired by Aman and Raman equally. The followings were agreed upon:-

- Create Provision for doubtful debts @ 10%.
- Market value of Building is ₹.1,00,000 and Furniture was overvalued by 20%.
- Stock was valued at ₹.55,000. Creditors of ₹.15,000 took over stock of ₹.10,000 in settlement of their claims.
- Goodwill of the firm was valued at ₹.80,000.
- Prepaid Expenses are worthless and Outstanding Expenses are now ₹.20,000.
- ₹.20,000 was immediately paid to Barman on retirement brought in by Aman and Raman in the of ratio 3:2.

Prepare Revaluation Account and Partner's Capital Account at the time of retirement of partner.

26

From the following information, complete Journal entries:

6

Date	Particulars	LF	Dr.(₹)	Cr.(₹)
	Share Capital A/c Dr. Securities Premium A/c Dr. To Share Forfeiture A/c To Calls in Arrears A/c (Being ___?___ shares forfeited for non-payment of ___?___ including premium of ₹2 per share)		? 1,000	? 3,500
	Bank A/c Dr. Share Forfeiture A/c Dr. To Share Capital A/c (Being ?__ shares reissued at ₹9 per share as fully paid)		? ?	?
	Share Forfeiture A/c Dr. To Capital Reserve Alc (Being forfeiture money transferred to capital reserve)		600	600

Share Forfeiture Account

Date	Particulars	(₹)	Date	Particulars	(₹)
	To Share capital A/c	?		By Share capital A/c	1,500
	To Capital Reserve A/c	600			
	To Balance c/d	600			
		1,500			1,500

(Face value of share is 10 each)

(Or)

	<p>a. Raman Ltd forfeited 600 shares of Rs.10 each issued at a premium of Rs.2 per share (Rs.8 called up) on which application money of Rs.3 and allotment money Rs.7 (including premium) is received. Out of these, 400 shares are re-issued @ Rs.8 per share fully paid up. Pass journal entries.</p> <p>b. Silver limited Purchased a running business of Alpha limited for Rs.22,00,000. The company issued equity shares of Rs.10 each at a premium of 10% The business comprises Building Rs.19,00,000, Machinery Rs.4,00,000, Debtor Rs.1,00,000, Furniture Rs.1,50,000, Creditor Rs.2,00,000 and Bills payable Rs.1,00,000. Pass journal entries.</p>													
	Part – B Financial Statement Analysis													
27	<p>Calculate the amount of change in inventories of finished goods, work-in-progress and stock-in-trade, that will be shown in the Notes to Accounts from the following information:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Particulars</th><th>Opening Inventories (₹)</th><th>Closing Inventories (₹)</th></tr> </thead> <tbody> <tr> <td>Finished Goods</td><td>2,50,000</td><td>2,75,000</td></tr> <tr> <td>Work-in-progress (WIP)</td><td>2,25,000</td><td>2,12,500</td></tr> <tr> <td>Stock-in-Trade</td><td>3,25,000</td><td>3,00,000</td></tr> </tbody> </table> <p>a) ₹ 12,450 b) ₹ 12,500 c) ₹ 15,200 d) ₹ 12,540</p>	Particulars	Opening Inventories (₹)	Closing Inventories (₹)	Finished Goods	2,50,000	2,75,000	Work-in-progress (WIP)	2,25,000	2,12,500	Stock-in-Trade	3,25,000	3,00,000	1
Particulars	Opening Inventories (₹)	Closing Inventories (₹)												
Finished Goods	2,50,000	2,75,000												
Work-in-progress (WIP)	2,25,000	2,12,500												
Stock-in-Trade	3,25,000	3,00,000												
28	<p>The current assets of X Ltd. are ₹2,00,000 and its current liabilities are ₹1,50,000. If its working capital turnover ratio is 6 times, its revenue from operations will be:</p> <p>(a) ₹2,00,000 (b) ₹3,00,000 (c) ₹2,50,000 (d) ₹1,50,000</p> <p style="text-align: center;">(OR)</p> <p>If revenue from operations is ₹10,00,000 and gross profit is 25% on cost, cost of revenue from operations will be:</p> <p>(a) ₹2,50,000 (b) ₹12,50,000 (c) ₹2,00,000 (d) ₹8,00,000</p>	1												
29	<p>Which of the following transactions will result into flow of cash?</p> <p>(a) Deposited ₹.40,000 into bank. (b) Withdrew cash from bank ₹.54,000. (c) Sold marketable securities of ₹.25,000 at par. (d) Sold machinery of book value of ₹.50,000 at a gain of ₹.10,000</p>	1												
30	<p style="text-align: center;">Balance Sheet (an Extract)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Equity and Liabilities</th><th>31st March 2019</th><th>31st March 2019</th></tr> </thead> <tbody> <tr> <td>12% Debentures</td><td>2,00,000</td><td>1,60,000</td></tr> </tbody> </table> <p>Additional Information: Interest on debentures is paid on half yearly basis on 30th September and 31st March each year. Debentures were redeemed on 30th September, 2019. How much amount (related to above information) will be shown in Financing Activity for Cash Flow Statement prepared on 31st March, 2020?</p> <p>(a) Outflow ₹40,000 (b) Inflow ₹42,600 (c) Outflow ₹61,600 (d) Outflow ₹64,000</p> <p style="text-align: center;">(OR)</p> <p>From the following information, find out the inflow of Cash by sale of Office equipment.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th><th>31st March 2022</th><th>31st March 2021</th></tr> </thead> <tbody> <tr> <td>Office Equipment</td><td>2,00,000</td><td>3,00,000</td></tr> </tbody> </table> <p>Additional Information: Depreciation for the year 2021-22 was ₹ 40,000. Office Equipment purchased during the year ₹30,000. Part of Office Equipment sold at a profit of ₹12,000</p> <p>(a) ₹ 1,00,000 (b) ₹ 1,02,000 (c) ₹ 90,000 (d) ₹ 1,12,000</p>	Equity and Liabilities	31 st March 2019	31 st March 2019	12% Debentures	2,00,000	1,60,000		31 st March 2022	31 st March 2021	Office Equipment	2,00,000	3,00,000	1
Equity and Liabilities	31 st March 2019	31 st March 2019												
12% Debentures	2,00,000	1,60,000												
	31 st March 2022	31 st March 2021												
Office Equipment	2,00,000	3,00,000												

31	<p>Under what headings and sub-headings of the Balance Sheet of a company, following will be presented:</p> <p>(i) Proposed Dividend (ii) Calls-in-Arrears (iii) Outstanding Salary (iv) Shares in D.C.R. Limited</p>	3																																																						
32	<p>Complete the following Comparative Balance Sheet as at March 31, 2024 and March 31, 2025:</p> <table><tr><th>PARTICULARS</th><th>31st March 2024</th><th>31st March 2025</th><th>Absolute Change</th><th>Percentage Change</th></tr><tr><td>Shareholders' Funds</td><td>6,00,000</td><td>??</td><td>3,00,000</td><td>??</td></tr><tr><td>Non-current Liabilities</td><td>3,00,000</td><td>??</td><td>NIL</td><td>??</td></tr><tr><td>Current Liabilities</td><td>??</td><td>3,00,000</td><td>2,00,000</td><td>??</td></tr><tr><td>TOTAL</td><td>??</td><td>??</td><td>??</td><td>??</td></tr><tr><td>Non-current Assets</td><td>7,00,000</td><td>??</td><td>??</td><td>50</td></tr><tr><td>Current Assets</td><td>??</td><td>??</td><td>??</td><td>??</td></tr><tr><td>TOTAL</td><td>??</td><td>??</td><td>??</td><td>??</td></tr></table> <p>(OR)</p> <p>Prepare Common Size Statement of Profit and Loss for the year ended March 31, 2025:</p> <table><tr><th>Particulars</th><th>31st March 2025</th></tr><tr><td>Revenue from Operations</td><td>40,00,000</td></tr><tr><td>Other Expenses</td><td>4,00,000</td></tr><tr><td>Other Income</td><td>6,00,000</td></tr><tr><td>Employee Benefit Expenses</td><td>8,00,000</td></tr><tr><td>Purchases of Stock in Trade</td><td>10,00,000</td></tr><tr><td>Change in Inventory</td><td>(2,00,000)</td></tr></table>	PARTICULARS	31st March 2024	31st March 2025	Absolute Change	Percentage Change	Shareholders' Funds	6,00,000	??	3,00,000	??	Non-current Liabilities	3,00,000	??	NIL	??	Current Liabilities	??	3,00,000	2,00,000	??	TOTAL	??	??	??	??	Non-current Assets	7,00,000	??	??	50	Current Assets	??	??	??	??	TOTAL	??	??	??	??	Particulars	31st March 2025	Revenue from Operations	40,00,000	Other Expenses	4,00,000	Other Income	6,00,000	Employee Benefit Expenses	8,00,000	Purchases of Stock in Trade	10,00,000	Change in Inventory	(2,00,000)	3
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Purchases of Stock in Trade	10,00,000																																																							
Change in Inventory	(2,00,000)																																																							
33	<p>. From the following information, compute 'Debt to Equity Ratio'.</p> <table><tr><th>Particulars</th><th>(₹)</th></tr><tr><td>Long-term Borrowings</td><td>2,00,000</td></tr><tr><td>Long-term Provisions</td><td>1,00,000</td></tr><tr><td>Current Liabilities</td><td>50,000</td></tr><tr><td>Non-current Assets</td><td>3,60,000</td></tr><tr><td>Current Assets</td><td>90,000</td></tr></table> <p>(OR)</p> <p>Calculate the information asked in following cases:</p> <p>(i) Current Liabilities ₹.1,50,000, Current Assets ₹.2,80,000, Inventories ₹.40,000, Advance Tax ₹.30,000 and Prepaid Rent ₹.10,000. Calculate Quick Ratio?</p> <p>(ii) Average Inventory ₹.60,000, Revenue from Operations ₹.6,00,000, the rate of Gross Loss on Sales is 10%. Calculate the Inventory Turnover Ratio?</p>	Particulars	(₹)	Long-term Borrowings	2,00,000	Long-term Provisions	1,00,000	Current Liabilities	50,000	Non-current Assets	3,60,000	Current Assets	90,000	4																																										
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Current Assets	90,000																																																							

Notes to Account

Particulars	Current Year (₹)	Previous Year (₹)
1. Reserves and Surplus Surplus i.e. Balance in statement of profit and loss	3,00,000	4,00,000
2. Long-term Borrowings 9% Debentures	4,00,000	3,00,000
3. Short-term Provisions Provision for Taxation	76,000	64,000
4. Property, Plant and Equipment Machinery Accumulated Depreciation	36,00,000 (7,00,000) 29,00,000	28,00,000 (5,00,000) 23,00,000
5. Intangible Assets Goodwill	2,70,000	1,60,000

Balance Sheet of Mayur Ltd.
as at 31st March, 2018

Particulars	Note No.	31st March, 2018 (₹)	31st March, 2017 (₹)
I. EQUITY AND LIABILITIES			
1. Shareholders' Funds			
(a) Share Capital	1	30,00,000	20,00,000
(b) Reserves and Surplus		3,00,000	4,00,000
2. Non-current Liabilities			
(a) Long-term Borrowings	2	4,00,000	3,00,000
3. Current Liabilities			
(a) Trade Payables		1,70,000	2,50,000
(b) Short-term Provisions	3	76,000	64,000
Total		39,46,000	30,14,000
II. ASSETS			
1. Non-Current Assets			
(a) Property, Plant and Equipment and Intangible Assets			
(i) Property, Plant and Equipment	4	29,00,000	23,00,000
(ii) Intangible Assets	5	2,70,000	1,60,000
(b) Non-current Investments			
2. Current Assets			
(a) Inventories		2,20,000	2,30,000
(b) Trade Receivables		1,10,000	1,30,000
(c) Cash and Cash Equivalents		4,46,000	1,94,000
Total		39,46,000	30,14,000

Additional Information

- (i) During the year, a piece of machinery costing ₹.4,00,000 on which accumulated depreciation was ₹.73,000 was sold for ₹.3,10,000.
- (ii) 9% Debentures of ₹.1,00,000 were issued on 31st March, 2018.

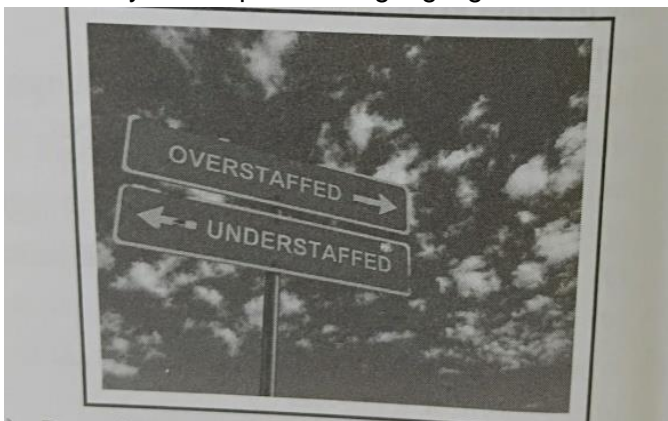
KENDRIYA VIDYALAYA SANGATHAN, BHUBANESWAR REGION
PRE-BOARD EXAMINATION, (2025-26)
CLASS XII
SUBJECT- BUSINESS STUDIES (054)

Max.Marks - 80**Max. Time Allowed- 3 Hours****General Instructions:**

Read the following instructions very carefully and strictly follow them:

- (in) This question paper contains 34 questions. All questions are compulsory.
- (ii) Marks are indicated against each question.
- (iii) Answers should be brief and to the point.
- (iv) Answers to questions carrying 3 marks may be from 50 to 75 words.
- (v) Answers to questions carrying 4 marks may be in about 150 words.
- (vi) Answers to questions carrying 6 marks may be in about 200 words.
- (vii) Attempt all parts of a question together.

Q.N		Marks
1	<p>The management of a bag manufacturing company has recently changed. Due to this, an improvement can be felt in the way company functions. Now, targets are met according to plans, whereas, earlier deadlines were never given importance. Now there is orderliness, instead of chaos in the organisation and the employees are happy and satisfied.</p> <p>From the following identify the characteristic of management which is highlighted in the above case:</p> <p>(a) Management is dynamic (b) Management is a group activity (c) Management is a continuous process (d) Management is an intangible force.</p>	1
2	<p>While conducting a survey Rajiv observed that although there was division of work in every factory he visited, but the extent of division of work varied from factory to factory depending upon the demand of the situation. Which feature of principle of management is highlighted above?</p> <p>(a) Flexible (b) Contingent (c) General guidelines (d) Cause and effect</p>	1
3	<p>Gitanjali Makan is a successful business leader. She believes that if jobs are made interesting by including greater variety of work content and providing a meaningful work experience, the jobs themselves become a source of motivation to individuals.</p> <p>The non-financial incentive that has been discussed in the above case is:</p> <p>(a) Employee Participation (b) Job Enrichment (c) Career Advancement Opportunity (d) Job Security</p>	1
4	<p>Read the following statements carefully:</p> <p>Statement I : The development of the principles of management is considered science and their application, is an art.</p> <p>Statement II : The principles of management cannot be applied in all types of organisations.</p> <p>Choose the correct option from the options given below:</p> <p>(a) Both the statements are true. (b) Both the statements are false (c) Statement I is true and statement II is false (d) Statement I is false and statement II is true</p>	1

5	<p>Read the following statements: Assertion (A) and Reason (R). Choose the correct alternative from those given below:</p> <p>Assertion (A): The directing function takes place at every level of management.</p> <p>Reason (R): Every manager, from top executive to supervisor performs the function of directing.</p> <p>Alternatives :</p> <p>(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)</p> <p>(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A)</p> <p>(c) Assertion (A) is true but Reason (R) is false</p> <p>(d) Assertion (A) is false but Reason (R) is true</p>	1
6	<p>'Cartoony Planet' is a well-known indoor playground for organising parties for children in Noida. It has many play stations and it organises various activities for the kids to enjoy. Looking at the increasing number of children visiting 'Cartoony Planet', a new indoor playground in the name of 'Tiny-Tots House' came up with advanced swings, play stations and entertainment activities near 'Cartoony Planet'. To compete with the newly opened indoor playground, 'Cartoony Planet' also added some advanced swings and entertainment activities to attract more children.</p> <p>The above information highlights one of the features of business environment. Identify the feature from the following:</p> <p>(a) Uncertainty (b) Dynamic Nature</p> <p>(c) Relativity (d) Interrelatedness</p>	1
7	<p>'Marbury biscuits' launched its new range of oat cookies in three varieties. They decided to distribute free samples of their biscuits in schools as a part of their promotional campaign. Identify the tool of promotion used by 'Marbury Biscuits':</p> <p>(a) Advertising (b) Personal Selling</p> <p>(c) Sales Promotion (d) Public Relations</p>	1
8	<p>Which of the following statements is incorrect?</p> <p>(a) Controlling should focus on Key Result Areas which are critical to the success of an organization.</p> <p>(b) Only significant deviations which go beyond the permissible limit should be brought to the notice of the management.</p> <p>(c) Comparison between actual and desired results is easier when standards are set in quantitative terms.</p> <p>(d) No corrective action is required when the deviations are outside the acceptable limits.</p>	1
9	<p>Observe the picture and identify the step of staffing highlighted in it</p>  <p>(a) Recruitment</p> <p>(b) Selection</p> <p>(c) Estimating Manpower Requirements</p> <p>(d) Placement and Orientation</p>	1

10	<p>In an organization, employees always feel that they are under enormous unnecessary stress, as the manager does not provide any information about future plans but simply instructs them what to do. He also does not listen to any of the suggestions given by the subordinates. Identify the type of leadership style followed by the manager in the above situation.</p> <p>(a) Autocratic leadership style (b) Free-rein leadership style (c) Democratic leadership style (d) All of the above</p>	1								
11	<p>Identify the correct sequence of steps to be followed in the trading procedure at Stock Exchange.</p> <p>(a) Opening a trading account and demat account, Placing an order, Settlement of order, Execution of order (b) Settlement of order, Opening a trading account and demat account, Placing an order, Execution of order (c) Opening a trading account and demat account, Placing an order, Execution of order, Settlement of order (d) Placing an order, Opening a trading account and demat account, Execution of order, Settlement of order</p>	1								
12	<p>Identify the correct sequence of two-level-channel of distribution:</p> <p>(a) Manufacturer → Retailer → Agent → Customer (b) Manufacturer → Consumer → Retailer → Wholesaler (c) Manufacturer → Agent → Customer → Retailer (d) Manufacturer → Wholesaler → Retailer → Consumer</p>	1								
13	<p>Match the concept of Management in Column I with their respective meaning in Column II</p> <table><tr><td>Column I</td><td>Column II</td></tr><tr><td>A. Effectiveness</td><td>(i) Doing the task correctively with minimum cost</td></tr><tr><td>B. Efficiency</td><td>(ii) Finishing the task on time</td></tr><tr><td>C. Process</td><td>(iii) The primary function or activities that management performs to get</td></tr></table> <p>(a) A-(i), B-(ii), C—(iii) (b) A-(ii), B-(i), C-(iii) (c) A-(iii), B-(ii), C(i) (d) A-(i), B-(iii), C-(ii)</p>	Column I	Column II	A. Effectiveness	(i) Doing the task correctively with minimum cost	B. Efficiency	(ii) Finishing the task on time	C. Process	(iii) The primary function or activities that management performs to get	1
Column I	Column II									
A. Effectiveness	(i) Doing the task correctively with minimum cost									
B. Efficiency	(ii) Finishing the task on time									
C. Process	(iii) The primary function or activities that management performs to get									
14	<p>'Uttam Ayurvedic Ltd. is an established Indian company manufacturing organic consumer goods like toothpastes and shampoos. It has planned to increase its market share from 30% to 40% in the current financial year.</p> <p>With the expanding market of organic products, other companies in the consumer goods industry have also launched these products with organic components. The competition in the market has increased and it was found that the sales of Uttam Ayurvedic Ltd. came down and its market share was reduced to 23%.</p> <p>Identify the limitation of planning highlighted in the above case.</p> <p>(a) Planning may not work in dynamic environment (b) Planning is time consuming (c) Planning involves huge costs (d) Planning reduces overlapping and wasteful activities.</p>	1								
15	<p>Which type of training is provided to the new employees of an organization in order to familiarize them with the organizational rules and policies, their superior and subordinate, and so on?</p> <p>(a)Vestibule training (b) Apprenticeship training (c)Internship training (d) Induction training</p>	1								

16	Which of the following statement is not correct? (a) Financial leverage is the proportion of debt in the overall capital (b) Purchase of Machinery is linked to working capital decision (c) EPS will rise with increase in debt only when $ROI < \text{Cost of Debt}$ (d) Both (b) and (c)	1
17	The process of estimating fund requirements of a business and specifying the sources of funds is called: (a) Capital Structure (b) Financial Planning (c) Financial Management (d) Capital Budgeting	1
18	Long term investment decision is also known as _____ (a) Working Capital (b) Financing Decision (c) Capital Budgeting Decision (d) Dividend Decision	1
19	Net Working Capital refers to: (a) Excess of Current Assets over Current Liabilities (b) Excess of Current Liabilities over Current Assets (c) Excess of Equity over Debt (d) Excess of Debt over Equity	1
20	Financial transactions in a financial market could be in the form of: (i) creation of financial assets such as the initial issue of shares and debentures by a firm (ii) purchase and sale of existing financial assets like equity shares, debentures and bonds (iii) investment in the fixed assets, like land and building, machinery, etc. (iv) declaration of dividend to shareholders Choose the correct option from the following: (a) (i) and (ii) (b) (ii) and (iii) (c) (iii) and (iv) (d) (i) and (iii)	1
21	Differentiate between Functional and Divisional Structure on the basis of: (a) Formation (b) Specialisation (c) Cost involved (OR) Explain any three importance of Delegation.	3
22	Shyam brought a pain-relieving ointment after seeing it being displayed in the chemist's shop. The ointment tube was packed in a cardboard box. Identify and explain the different levels of packaging of the pain reliving medicine, when it was purchased by Shyam. State another level of packaging which is not highlighted in the above case.	3
23	Give any three points of distinction between the primary market and secondary market. (OR) Give any three regulatory functions performed by Securities and Exchange Board of India	3
24	After completing his MBA degree, Aman joined a multinational company 'Zeyovya Ltd.'. His job demands long hours and commitment to the organisation. He is responsible for integrating diverse elements and coordinating all the activities of the business and for its impact on society. His job is complex and stressful. (a) Identify the level of management at which Aman joined the organisation. (b) State any two functions to be performed by Aman at this level other than those discussed in the para.	3

25	<p>Differentiate between 'Production concept' and 'Marketing concept' of marketing on the basis of:</p> <p>(a) Starting point (b) Means (c) Main focus (d) Ends.</p> <p style="text-align: center;">(OR)</p> <p>RK motors recently informed the media about its aim to train up to 4,000 people in next 3 years in the skills associated with the automobiles industry as part of its program to provide technical and vocational education for unemployed youth. The firm has already started the program in collaboration with automobile skill development council. This news in the media has helped the firm in promoting its image in the eyes of the public and consumer activist groups.</p> <p>Identify the element of Promotion mix is highlighted in the above case study and explain its three role of the identified element.</p>	4
26	<p>Explain any four importance of planning in management.</p> <p style="text-align: center;">(OR)</p> <p>Explain the following types of plans:</p> <p>(a) Strategy (b) Procedure</p>	4
27	<p>India's craft heritage is surviving because of its customs and traditions. Craft products made by craftsmen of Rajasthan, Gujarat, Assam, etc. are not only used in the country but are also exported to USA, Germany, UK, France and other countries of the world. The volume of exports of these products gives India an advantage in balance of payments and the much needed foreign exchange. The Prime Minister desires that the handicraft industry should be expanded by linking it with technology. Focus should be on changing the manufacturing process, ensuring durability and adopting innovations. Quoting the lines from the above paragraph, explain any four dimensions of the business environment</p>	4
28	<p>'Planning and controlling are inseparable twins of management'. How?</p>	4
29	<p>'Work is Worship' is a leading construction company. The organisation has grown from strength to strength because of its innovative ideas and scientific approach of working. Ten years back the organisation went through a revolution. All the operations and activities were properly noticed and the standard time taken to perform them was noted. This took a few months and now the company could find out the amount of workers required and the number of days to be involved in the various manufacturing processes. A year later they moved to another level by considering the stress involved in the lives of the workers. The amount and frequency of rest intervals in finishing a particular task were noted. This helped the company in optimizing the rest intervals for the workers so that their outputs could be increased. After six more months the company decided to reward the efficient workers. A different rate of wage payment was decided for those workers who performed above the standard. The standard was decided. This led to a revolutionary change in the perspective of the workers who now started giving their full efforts in order to increase their wages.</p> <p>Name and explain briefly any two types of Techniques of Scientific Management highlighted above. Also quote the lines where these types have been indicated.</p>	4

30	<p>Vandana Public School had a vacancy of a Maths teacher. They were looking for a smart and creative teacher having a drive for excellence. An advertisement was given in all leading dailies. Since the response was huge, the school examined all the application forms and rejected the candidates who did not have the necessary qualifications. Thereafter, a test was conducted to measure the existing skills of the candidates. After that it was followed by a formal in-depth conversation with the Principal of the school and a panel of Maths experts.</p> <p>(a) Explain the steps that have been performed by Vandana Public School in the process of identifying and choosing the best candidate.</p> <p>(b) Give the name and also the meaning of the test which was conducted by the school</p>	4
31	<p>Sahaj Ltd. is a company engaged in production of organic foods. Presently, it sells its products through indirect channels of distribution. But, considering the sudden surge in the demand for organic products, the company is now inclined to start its online portal for direct marketing. The financial managers of the company are planning to use debt in order to take advantage of trading on equity. In order to finance its expansion plans, it is planning to, raise a debt capital of Rs. 40 lakhs through a loan @ 10% from an industrial bank. The present capital base of the company comprises of Rs. 9 lakh equity shares of Rs. 10 each. The rate of tax is 30%. In the context of the above case:</p> <p>(1) What are the two conditions necessary for taking advantage of trading on equity?</p> <p>(2) Assuming the expected rate of return on investment to be same as it was for the current year i.e. 15% , do you think the financial managers will be able to meet their goal. Show your workings clearly.</p>	6
32	<p>Neeraj, a sales representative of 'Omida Ltd' has changed seven jobs in the last one year. He is a hard working person but is not able to finalize deals with the customer due to his inadequate vocabulary and omission of needed words. Sometimes he uses wrong words because of which intended meaning is not conveyed. All this created a misunderstanding between him and his clients.</p> <p>a. Identify the communication barrier discussed above.</p> <p>b. State the category of this communication barrier.</p> <p>c. Explain any other communication barrier of the same category.</p> <p>d. Explain two measures to overcome such barriers for effective communication.</p>	6
33	<p>The G20 Summit was organised in India. The government left no stone unturned to make G20 summit a success.</p> <p>At the higher level, the work to be performed was identified and grouped to enable people to work most effectively together for accomplishing objectives. This involved building infrastructure, beautification of the city, hospitality, security arrangements etc. Duties were assigned to different job positions which led to establishment of clear relationships. This helped in creating a hierarchical structure and in co-ordination amongst all working for the summit.</p> <p>(a) Identify and explain the function of management discussed in the above para.</p> <p>(b) Explain any four points of importance of the function identified in part (a) above</p>	6
34	<p>Enumerate any five rights of a consumer under the Consumer Protection Act, 2019.</p> <p style="text-align: center;">(OR)</p> <p>Reena purchased one litre of pure Deshi Ghee from a shopkeeper. After using it, she had a doubt that it is adulterated. She sent it for a laboratory test which confirmed that the Ghee is adulterated. State any six reliefs available to Reena, if she complaints and the consumer court is satisfied about the genuineness the complaint.</p>	6

KENDRIYA VIDYALAYA SANGATHAN, BHUBANESWAR REGION
PRE-BOARD EXAMINATION-I
CLASS: - XII (2025-26)
SUBJECT: - ECONOMICS (030)

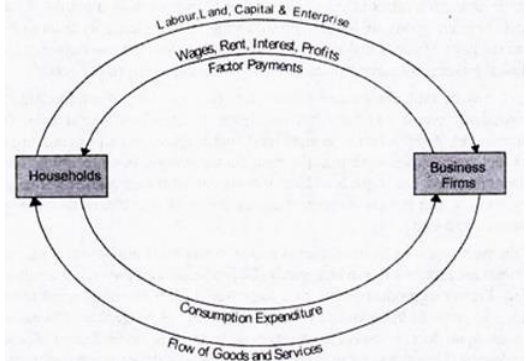
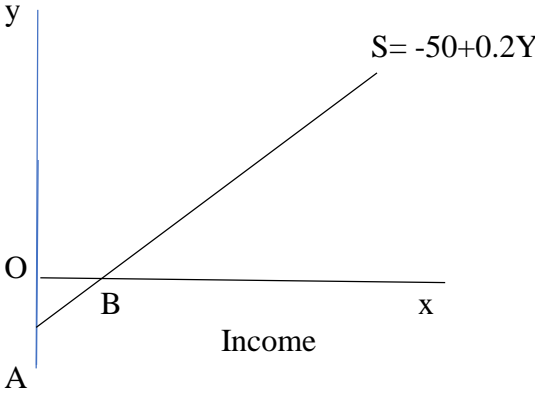
TIME: 3 HOURS

M.M. – 80

GENERAL INSTRUCTIONS:


- I. This question paper contains two sections:
 Section A – Introductory Macro Economics
 Section B – Indian Economic Development
- II. This paper contains 20 Multiple Choice Type Questions of 1 mark each.
- III. This paper contains 4 Short Answer Type Questions of 3 marks each to be answered in 60 to 80 words.
- IV. This paper contains 6 Short Answer Type Questions of 4 marks each to be answered in 80 to 100 words.
- V. This paper contains 4 Long Answer Type Questions of 6 marks each to be answered in 100 to 150 words.
- VI. The above word limits are not applicable to Numerical Questions.


SL. NO	<u>SECTION A – INTRODUCTORY MACRO ECONOMICS</u>	Marks
1.	<p>In an economy, the saving and investment functions are given as $S = -100 + 0.2Y$ $I = 40$ On the basis of the given information, the equilibrium level of income will be _____. a) 600 b) 700 c) 1000 d) 900</p>	1
2.	<p>If nominal GDP is Rs 600cr and the value of GDP deflator is 120, find the value of real GDP. a) Rs. 480cr b) Rs. 720cr c) Rs. 500cr d) Rs. 50 cr</p>	1
3.	<p>Read the following statements carefully Statement 1: The RBI maintains the cash reserves of the commercial banks and the country's foreign exchange reserves. Statement II: The RBI accepts deposits from the general public and creates credit in the economy. In light of the given statements, choose the correct option from the following. a) Statement I is true but Statement II is false. b) Statement I is false but Statement II is true. c) Both statements I and II are true. d) Both statements I and II are false.</p>	1
4.	<p>Read the following statements carefully Statement 1: Devaluation of currency is said to occur when the exchange rate is decreased under the fixed exchange rate system. Statement II: Under the floating exchange rate system, competent authorities do not maintain foreign exchange reserves. In light of the given statement, choose the correct option from the following. a) Statement I is true but Statement II is false. b) Statement I is false but Statement II is true. c) Both statements I and II are true. d) Both statements I and II are false.</p>	1

5.	<p>Read the following figure carefully and choose the correct answer from the alternatives given below:</p> <p>The flow in the outer circle of the picture is a Flow.</p> <p>A) Nominal Flow B) Real Flow C) Circular flow D) Both A & B</p>  <p>Fig. 6.1. Circular Flow of Income in a Simple Two Sector Economy</p>	1
6.	 <p>With reference to the above diagram, which of the following is true at point B?</p> <p>a) $APS=1, APC=0$ b) $APS=0, APC=1$ c) $APS>0, APC<1$ D) $APS<0, APC>1$</p>	1
7.	<p>Read the following statements- Assertion (A) and Reason (R). Choose one of the correct alternatives from those given below:-</p> <p>Assertion (A) – Real gross domestic product is a better indicator of economic growth of a nation as compared to nominal gross domestic product.</p> <p>Reason (R) – Real gross domestic product measures the value of goods and services at current year prices</p> <p>a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion(A). b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A) c) Assertion (A) is true and Reason (R) is false d) Assertion (A) is false and Reason (R) is true.</p>	1
8.	<p>Alisha went to the bank for a loan. She deposits her jewelry against the loan as a security. The market value of the security is 10 Lakh. The bank given 8 Lakh as a loan to Alisha. Find the value of Margine requirement kept by the bank.</p> <p>a) 10% b) 20% c) 30% d)40%</p>	1

9.	<p>Read the following statements: Assertion (A) and Reason (R). Choose the correct option from those given below:</p> <p>Assertion (A): External Assistance is recorded in the Current Account of the Balance of Payments of a nation.</p> <p>Reason (R): External Assistance includes bilateral and multilateral loans received/extended by a nation.</p> <p>Options:</p> <p>A. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).</p> <p>B. Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct Explanation of Assertion (A).</p> <p>C. Assertion (A) is true, but Reason (R) is false.</p> <p>D. Assertion (A) is false, but Reason (R) is true.</p>	1																					
10.	<p>Read the following statements: Assertion (A) and Reason (R). Choose the correct option from those given below:</p> <p>Assertion (A): In India, no one can refuse to accept payment made in currency notes.</p> <p>Reason (R): Currency notes are unlimited legal tender in India.</p> <p>Options:</p> <p>A. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).</p> <p>B. Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct Explanation of Assertion (A).</p> <p>C. Assertion (A) is true, but Reason (R) is false.</p> <p>D. Assertion (A) is false, but Reason (R) is true.</p>	1																					
11.	<p>Calculate the value of “Change in stock” from the following data.</p> <table border="1"> <thead> <tr> <th>SL.NO.</th><th>Items</th><th>Amount (in Crores)</th></tr> </thead> <tbody> <tr> <td>I</td><td>Sales</td><td>400</td></tr> <tr> <td>II</td><td>Net Value Added at Factor Cost(NVAfc)</td><td>200</td></tr> <tr> <td>III</td><td>Subsidies</td><td>10</td></tr> <tr> <td>IV</td><td>Change in stock</td><td>?</td></tr> <tr> <td>V</td><td>Depreciation</td><td>40</td></tr> <tr> <td>VI</td><td>Intermediate consumption</td><td>100</td></tr> </tbody> </table>	SL.NO.	Items	Amount (in Crores)	I	Sales	400	II	Net Value Added at Factor Cost(NVAfc)	200	III	Subsidies	10	IV	Change in stock	?	V	Depreciation	40	VI	Intermediate consumption	100	3
SL.NO.	Items	Amount (in Crores)																					
I	Sales	400																					
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VI	Intermediate consumption	100																					
12.	<p>The power of commercial banks which enables them to expand their deposits through loans is called credit creation. Legal Reserve Ratio (LRR) is the minimum reserve that a commercial bank must maintain in a liquid form as per the instructions of the Central bank. LRR has two components (i) Cash Reserve Ratio (CRR)-It is the fraction of net total demand and time deposits that commercial banks must keep as cash reserves with Central bank. (ii) Statutory Liquidity Ratio (SLR) – it is the fraction of net total demand and time deposits that commercial banks must keep with themselves in the form of specified liquid assets.</p> <p>Assumptions of Credit creation-</p> <p>(i) There is a single banking system in the economy.</p> <p>(ii) All transactions are routed through the banks Commercial banks are called the factories of credit. They advance much more than what they collect from the public in the form of deposits. Through the process of credit creation, the commercial banks provide finance to all the sectors of economy.</p> <p>1. Which bank is called the factory of credit creation?</p> <p>a. Govt. b. Commercial Bank c. LIC d. None of these</p> <p>2. If CRR=5% and LRR=20% then what is the SLR?</p> <p>a. 5% b. 10% c. 15% d. None of these</p>	3																					

	<p>3. Which of the following is NOT the assumptions of credit creation process?</p> <p>a. There is a multiple banking system in the economy. b. All transactions are routed through the banks. c. Both a and b d. None of these.</p> <p style="text-align: center;">OR</p> <p>“Central bank acts as the banker to the Government”. Elaborate the given statement.</p>	3																		
13.	<p>“GDP at constant prices is often considered a better measure of economic growth than GDP at current prices”. Do you agree? Justify your answer.</p>	4																		
14.	<p>Read the passage given below and answer the questions that follow.</p> <p>A change in the rupee-dollar exchange rate represents the change in external value of rupee. The value of rupee, in terms of dollar, has been falling continuously over a period of time. Since rupee-dollar exchange rate is determined by the demand for and supply of dollars, it is possible that the value of rupee slides further if appropriate measures are not taken.</p> <p>The Reserve Bank of India, in-charge of both internal and external value of rupee, has repeatedly emphasized on maintaining stability in the foreign exchange market.</p> <p>(i) What kind of exchange rate system is being referred to in the passage? (ii) The value of rupee, in terms of dollar, has been falling continuously over a period of time. Give the economic term for this phenomenon. (iii) How would this phenomenon affect the export?</p> <p style="text-align: center;">OR</p> <p>Differentiate between Balance of Trade and Balance of Payment.</p>	4																		
15.	<p>Given consumption function $C = 100 + 0.75Y$ (where C = consumption expenditure and Y = National Income) and investment expenditure Rs. 1000, calculate.</p> <p>(i) Equilibrium level of National income (ii) Consumption expenditure at equilibrium level of National Income</p>	4																		
16.	<p>A- What do you mean by fiscal policy? How is fiscal policy used to solve the problem of excess demand and deficient demand?</p> <p>B- In an economy the planned investment is higher than planned saving. Explain the chain of operations to be followed to restore equilibrium in the economy.</p>	3 3																		
17.	<p>(A) On the basis of the given information, calculate the value of:</p> <p>(i) Fiscal deficit</p> <p>(ii) Primary deficit</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">S.No.</th><th style="width: 40%;">Items</th><th style="width: 50%;">2024-25(₹in crore)</th></tr> </thead> <tbody> <tr> <td>(i)</td><td>Revenue Receipts</td><td style="text-align: center;">20</td></tr> <tr> <td>(ii)</td><td>Capital Expenditure</td><td style="text-align: center;">15</td></tr> <tr> <td>(iii)</td><td>Revenue Expenditure</td><td style="text-align: center;">10</td></tr> <tr> <td>(iv)</td><td>Non-debt creating capital receipts</td><td style="text-align: center;">50% of revenue receipts</td></tr> <tr> <td>(v)</td><td>Interest Payments</td><td style="text-align: center;">4</td></tr> </tbody> </table>	S.No.	Items	2024-25(₹in crore)	(i)	Revenue Receipts	20	(ii)	Capital Expenditure	15	(iii)	Revenue Expenditure	10	(iv)	Non-debt creating capital receipts	50% of revenue receipts	(v)	Interest Payments	4	3+2+1
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	(C) Incorporation of TISCO	1907										
	(D)Introduction of railway	1950										
23.	Assertion (A): Self Help Groups (SHGs) play an important role in promoting rural development in India. Reason (R): SHGs encourage individual savings and provide easy access to formal credit to rural poor, especially women. Options: A. Both A and R are true, and R is the correct explanation of A. B. Both A and R are true, but R is not the correct explanation of A. C. A is true, but R is false. D. A is false, but R is true.		1									
24.	The population explosion and advent of Industrial Revolution led to the ____. (Choose the correct option to fill up the blank) A. reversal of supply-demand relationship of environmental resources B. decrease in demand for environmental resources C. decrease in the average temperature of the earth’s lower atmosphere D. increase in the environmental quality		1									
25.	Observe the image carefully: <div></div> <div>Choose the correct option which indicates arresting of felling of Trees and related environmental concerns in Karnataka. (a) Chipko Movement (b) Appiko Movement (c) Plateauco Movement (d) Siftico Movement</div>		1									
26.	GLF campaign started by China in the year ____. (a) 1968 (b) 1958 (c) 1978 (d) 1998		1									
27.	The key figure behind India's White Revolution is_____. a) M S Swaminathan b) Dr. Verghese Kurien c) Indira Gandhi d) Sardar Vallabhbhai Patel		1									
28.	Compare and analyse the following information related to Annual Growth of Gross Domestic Product (GDP) of India and China. <table><tr><td>Country</td><td>1980-90</td><td>2015-17</td></tr><tr><td>India</td><td>5.7</td><td>7.3</td></tr><tr><td>China</td><td>10.3</td><td>6.8</td></tr></table>		Country	1980-90	2015-17	India	5.7	7.3	China	10.3	6.8	3
Country	1980-90	2015-17										
India	5.7	7.3										
China	10.3	6.8										
29.	In a survey of a small town, it was found that: <ul style="list-style-type: none">• Out of 5,000 people, 3,200 were working.• 300 people were looking for jobs but could not find any.• The rest were not part of the labour force (students, elderly, etc.). Based on this data, answer the following: a. Calculate the Workforce Participation Rate (WPR).		3									

	<p>b. Identify the type of unemployment reflected in this situation. c. Suggest one measure to reduce such unemployment.</p> <p style="text-align: center;">OR</p> <p>Define Environment. What are the functions of environment?</p>	3
30.	<p>Read the following passage and answer the questions: In 1991, India faced a severe balance of payments crisis. Foreign exchange reserves had fallen sharply, and the country struggled to pay for essential imports. The government responded by introducing the New Economic Policy, which focused on liberalisation, privatisation, and globalisation (LPG). Restrictions on imports and investments were reduced, public sector monopolies were curtailed, and foreign investment was encouraged.</p> <p>Questions: a. What was the main reason for introducing the New Economic Policy in 1991? b. Explain one measure taken under liberalisation. c. How did privatisation aim to improve the Indian economy? d. Give one positive outcome of the New Economic Policy.</p> <p style="text-align: center;">OR</p> <p>What were the main causes of India's agricultural stagnation during the colonial period?</p>	4
31.	<p>(I) "India has been a part of many regional and global economic groupings such as G20, SAARC, BRICS etc." In the light of the given statement, briefly explain the importance of regional and global economic groupings. (II) Define 'Special Economic Zone'.</p>	3 1
32.	<p>Identify the activity in the Picture. Explain how it contributes to the rural development in the Indian economy?</p> 	4
33.	<p>(a) "The process of globalisation through liberalisation and privatisation has produced positive, as well as, negative results for India." Do you agree with the given statement? Give valid explanation in support of your answer. (b) "The Government of India was compelled to introduce the economic reforms of 1991." State any two reasons behind the introduction of Economic Reforms of 1991.</p> <p style="text-align: center;">OR</p> <p>Read the following hypothetical text and answer the given questions: The performance of the Indian economy during the period of first seven five-year plans (1950-1990) was satisfactory if not very impressive. On the eve of independence, India was an industrially backward country, but during this period of first seven plans our industries became far more diversified, with the stress being laid on the public investments in the industrial sector. The policy of import substitution led to protection of the domestic industries</p>	3 3

	<p>against the foreign producers but we failed to promote a strong export surplus. Although the public sector expanded to a large extent, it could not bring the desired level of improvement in the secondary sector. Excessive government regulations prevented the natural trajectory of growth of entrepreneurship as there was no competition, no innovation and no modernization on the front of the industrial sector. Many Public Sector Undertakings (PSU's) incurred huge losses due to operational inefficiencies, red- tapism, poor technology and other similar reasons. These PSU's continued to function because it was difficult to close a government undertaking even if it was a drain on the country's limited resources. On the Agricultural front, due to the measures taken under the Green Revolution, India more or less became self-sufficient in the production of food grains. So the need for reform of economic policy was widely felt in the context of changing the global economic scenario to achieve desired growth in the country.</p> <p>Q-1 What are the reasons for the public sector to play a major role in the initial phase of Indian Economic Planning?</p> <p>Q - 2 write benefits of inward-looking trade strategy. (Any two)</p> <p>Q-3 Write two benefits of Green revolution.</p>	<p>2</p> <p>2</p> <p>2</p>
34.	<p>Read the passage below and answer the questions that follow:</p> <p>India's economic growth largely depends on the productivity of its workforce. Investment in education, health, and skill development enhances the abilities of people, enabling them to contribute more effectively to the economy. Countries that have invested heavily in human capital, like South Korea and Japan, have witnessed rapid growth and higher per capita income. In India, despite efforts in literacy and health improvement, challenges like low skill levels, malnutrition, and regional disparities still affect productivity.</p> <p>Questions:</p> <ol style="list-style-type: none"> Define human capital formation. Explain any two ways through which investment in human capital increases productivity. Identify two challenges India faces in human capital formation. Give one example of a government initiative to improve human capital in India 	<p>1.5</p> <p>1.5</p> <p>1.5</p> <p>1.5</p>

KENDRIYA VIDYALAYA SANGATHAN, BHUBANESWAR REGION
PRE-BOARD-1 QUESTION PAPER-2025-26
CLASS-XII

SUBJECT: - HISTORY (027)

TIME:-3 HOURS

Maximum Marks:-80

GENERAL INSTRUCTIONS:

- I. All questions are compulsory.
- II. Question paper comprises five section-A, B, C, D and E .There are 34 questions in the question paper.
- III. Section A-Question 1 to 21 are MCQs of 1 mark each.
- IV. Section B- Question no. 22 to 27 are Short answer type questions, carrying 3 marks each. Answer to each question should not exceed 60-80 words.
- V. Section C- Question no. 28 to 30 are Long answer type questions, carrying 8 marks each. Answer to each question should not exceed 300-350 words.
- VI. Section D- Question no. 31 to 33 are Source Based questions with three sub questions and are of 4 marks each.
- VII. Section E- Question no. 34 is Map Based, carrying 5 marks that includes the identification and location of significant test items. Attach the map with the answer book.
- VIII. There is no overall choice in the question paper. However, an internal choice has been provided in few questions. Only one of the choices in such questions have to be attempted.
- IX. In addition to this, separate instructions are given with each section and question wherever necessary.

SECTION-A

- Q.1.Which of the following places of Harappan Civilisation is associated with fire altars? 1
- (a) Harappa. (b) Kalibanga
(c) Mohenjo-Daro (d) Rakhigarhi

- Q.2.Which one of the following is NOT a correct statement about Mahajanpadas? 1
- (a)Most Mahajanpadas were ruled by Kings.
(b) Some known as ganas or sanghars were oligarchies.
(c) Each Mahajanpadas had a capital city which was often fortified.
(d) Panchala became the most powerful Mahajanpada between 6th - 4th centuries BCE

- Q.3 Match the following and select the correct option:- 1

List 1

List 2

- | | |
|-----------------------------------|---|
| 1. Numismatics | a. land granted to a Brahmana |
| 2. Periplus of the Erythraean Sea | b. the study of coins including visual elements |
| 3. Votive inscriptions | c. record gifts made to religious institutions. |
| 4. Agrahara | d. sailing around the Red Sea |

Options:-

- (a) 1-b, 2-d, 3-c, 4- a. (b) 1-b, 2-a, 3-c, 4-d.
(c) 1-d, 2-b, 3-a, 4-c (d) 1-a, 2-c, 3-d, 4-b

- Q.4.Which of the following statements are true regarding Mahabharata? 1
- (i) The Sanskrit version of Mahabharata is far simpler than Vedas.
(ii) Historians classified Mahabharata into two broad heads as the narrative and the

didactic.

(iii) The Mahabharata is a dynamic text.

(iv) Didactic portion was first to be written.

Options:-

- (a) i, ii and iii. (b) i, iii and iv. (c) ii, iii and iv. (d) i, ii and iv

Q.5. Which of the following is an example of a patrilineal society? 1

- (a) A society where property is inherited by daughters
(b) A society where the mother's family is considered more important
(c) A society where the father's family is considered more important
(d) A society where property is distributed equally among all family members

Q.6. Which of the following statements regarding Colin Mackenzie are correct? Choose the correct option:- 1

- I. The ruins of Hampi were brought to light in 1800 by him.
II. He was an official of East India Company.
III. He prepared the first survey maps of the site.
IV. He received information of Vijayanagar Empire from Duarte Barbosa.

Options:-

- (a) I, II and III. (b) II, III and IV
(c) I, III and IV. (d) I, II and IV

Q.7. Which one of the following pair is correctly matched? 1

LIST- 1(Name of Important Committees of Constituent Assembly)	LIST-2 (Name of President)
--	-----------------------------

- | | |
|----------------------------------|-------------------|
| (a) Flag Committee | H.C. Mukherjee |
| (b) Union Power Committee | Pandit J.L. Nehru |
| (c) Rules of Procedure Committee | S. Varadachariar |
| (d) States Committee | J.B. Kripalani |

Q.8. What was the role of the Constituent Assembly in shaping India's democratic values? 1

- (a) It established a monarchy
(b) It promoted a single-party system
(c) It ensured the representation of diverse interests
(d) It created a framework for democratic governance

Q.9. Arrange the following historical events in a correct chronological order and choose the correct options:- 1

- I. Making of the Constituent Assembly
II. Jallianwala Bagh Massacre
III. Quit India Movement
IV. Gandhi - Irwin Pact

Options:-

- (a) II, III, I and IV. (b) II, IV, III and I
(c) III, II, I and IV. (d) IV, III, I and II

Q.10. Which one of the following was a key feature of the 'Subsidiary Alliance' introduced by Lord Wellesley in 1798? 1

- (a) Free Trade Policy brought by British.
(b) Maintenance of native army by British.
(c) Imposition of Western Customs by British.
(d) Protection of native territory by British.

Q.11. In the following questions, a statement of assertion followed by a statement of reason is

given. Choose the correct answer out of the choices.

1

Assertion (A): The Revolt of 1857 led to significant changes in British policy towards India.

Reason (R): The British government abolished the East India Company and took direct control of India.

- (a) Both A and R are true, and R is the correct explanation of A
- (b) Both A and R are true, but R is not the correct explanation of A
- (c) A is true, but R is false
- (d) A is false, but R is true

Q.12. Consider the following statements regarding the establishment of British East India Company in Bengal:-

1

1. The Permanent Settlement had come into operation in 1793.
2. In 1797 there was an auction in Burdwan, during which a number of Mahals held by the Raja of Burdwan were being sold.
3. The estates of those who failed to pay were to be auctioned to recover the revenue.

Which of the following statement(s) is/are correct?

- (a) Only 1.
- (b) 1 & 2.
- (c) 1&2.
- (d) 1, 2 & 3

Q.13. Imagine you are a British colonial administrator tasked with implementing a new land revenue policy in rural India. What would be the most effective way to minimise resistance from peasants?

1

- (a) Imposing harsh penalties for non-payment
- (b) Offering incentives for timely payment
- (c) Consulting with local leaders and considering their concerns
- (d) Ignoring peasant grievances

Q.14. Though agriculture was labour intensive, peasants did use technologies in the 17th century. Which of the following was not technology based?

1

- (a) Use of wooden plough with an iron tip or coulter
- (b) A drill, pulled by a pair of giant oxen
- (c) Seed broadcasting
- (d) Hoeing and weeding by using a narrow iron blade

Q.15. Choose the correct option: The book deals with the fiscal side of the empire and Provides rich quantitative information on revenue rates.

1

- (a) Manzil-abadi.
- (b) Sipah-abadi.
- (c) Mulk- abadi
- (d) Aam - abadi

Q.16. Al-Biruni's major work 'Kitab-ul-Hind' is significant for its comprehensive study of India. Which of the following was the primary aim of this book?

1

- (a) Promote Islamic teachings
- (b) Map geographical locations.
- (c) Document Indian culture.
- (d) Critique culture and traditions

Q.17. Which of the following statements is/are correct about François Bernier?

1

1. He was a doctor, political philosopher and historian.
2. He was closely associated with Danishmand Khan, an Armenian noble.
3. He was in India for 12 years, from 1656 to 1668.
4. He translated the Mahabharata into English.

Options:-

- (a) 1,2,3,4.
- (b) 1, 2, 3.
- (c) 1, 3, 4.
- (d) 2,3,4

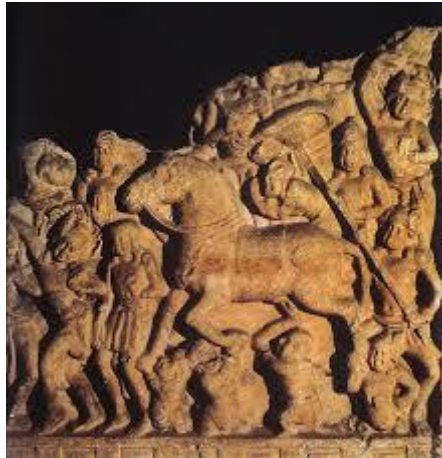
Q.18 In a modern city, a group of friends discuss the relevance of Kabir's teachings in today's society. Some believe these are outdated, while other see their significance in promoting equality and love. Which of these scenario best reflects Kabir's relevance today?

1

- (a) A debate on Kabir's historical context.

- (b) A discussion dismissing spirituality irrelevant.
- (c) Focus on societal norms and trades only.
- (d) Seeking simple connection with the divine.

Q.19. It is a sculpture depicting the departure of the Buddha from his palace. Identify the Picture from the given options. 1



- (a) A sculpture from Sanchi
- (b) A sculpture from Shah ji-ki-Dheri
- (c) A sculpture from Bharhut
- (d) A sculpture from Amravati

Q.20 "Be lamps unto yourselves as all of you must work out your own liberation." Identify the essence of the words of Buddha from the options given below: 1

- (a) One should connect to inner being.
- (b) should live life of brahmacharya
- (c) One should focus and express feelings
- (d) One should spread religion everywhere.

Q.21 In the following questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the choices. 1

Assertion (A):- The Bhakti saints used vernacular languages to compose devotional poetry and songs.

Reason (R) :- They wanted to reach a limited audience and make spiritual knowledge accessible to them.

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) A is false but R is true.

SECTION-B

Q.22. Describe briefly the sources used for reconstructing the history of the Gupta rulers. 3

OR 3

How has a coinage played a valuable role in determining certain period of Indian history?

Q.23. Describe the various stages through which Mahabharata was compiled in the 20th century. Discuss any three points. 3

Q.24. Bernier's description of imperial land ownership influenced Western theorists like French philosopher Montesquieu and German Karl Marx." Justify it with suitable arguments. 3

Q.25. "Historians who have carefully studied the Ain-i-Akbari point out that it is not without it's problems." Analyse the limitations of Ain-i-Akbari as a source of Akbar's region. 3

Q.26 "The battle between the hoe and plough was a long one." Justify the statement with suitable examples. 3

Q.27 "The three lists of subjects provided by the Drafting Committee in the Constituent Assembly prevent conflict among the levels of the governments". Examine the statement with relevant examples. 3

OR

Explain the ideals introduced by Jawaharlal Nehru in the 'Objectives Resolution' that were kept in mind while framing the Constitution of India. 3

SECTION-C

Q.28 Examine how the fortification system of the Vijayanagar Empire reflected its military strategies, urban planning and socio-political priorities. 8

OR

Discuss the significance of the rituals associated with the Mahanavami Dibba. 8

Q.29 Discuss the point that newspapers in the Gandhian era were not merely a means of news reporting but instruments of political mobilisation. How were they used during the National Movement? 8

OR

Explain how different kinds of sources help to reconstruct Gandhiji's political career and the history of the National Movement. 8

Q.30 Explain why many scholars believe there may have been rulers in the Harappan society. 8

OR

How did the trade in Harappan-crafted goods impact economic interactions with neighboring regions? 8

SECTION-D

Q.31 Read the given passage and answer the following questions: 4

Buddhism in practice

This is an excerpt from the Sutta Pitaka and contains the advice given by the Buddha to a wealthy householder named Sigala;

In five ways, a master should look after his servants and employees... by assigning them work according to their strength, by supplying them food and wages, by tending to them in sickness, by sharing delicacies with them and by granting leave at times...

In five ways, the clansmen should look after the needs of samana(those who have renounced the world) and Brahmanas: by affection in act, speech and mind, by keeping open house to them and supplying their worldly needs.

There are similar instructions to Sigala about how to behave with his parents, teacher and wife.

(i) Explain the significance of the Sutta Pitaka in Buddhism. 1

(ii) How did Buddha advise the wealthy householders to be human and ethical? 1

(iii) What do you think was the advice given by Buddha to Sigala on how to behave with his parents and teachers? 2

Q.32 Read the given passage and answer the following questions: 4

The One Lord

Here is a composition attributed to Kabir:

Tell me, brother, how can there be No one lord of the world but two?

Who led you so astray?

God is called by many names: Names like Allah, Ram, Karim, Keshav, Hari, and Hazrat.

Gold may be shaped into rings and bangles.

Isn't it gold all the same?

Distinctions are only words we invent....

Kabir says they are both mistaken.

Neither can find the only Ram. One kills the goat, the other cows.

They waste their lives in disputation.

- (i) How has Kabir advocated an inclusive and compassionate view of humanity? 1
 (ii) How did Kabir describe the ultimate reality? 1
 (iii) How does Kabir's philosophy contribute to a broader understanding of spiritualism? 2
 Q.33 Read the given passage and answer the following questions: 4

Maulvi Ahmadullah Shah

Maulvi Ahmadullah Shah was one of the many moles who played an important part in the revolt of 1857. Educated in Hyderabad, he became a preacher when young. In 1856, he was seen moving from village to village preaching Jihad (religious war) against the British and urging people to rebel. He moved in a palanquin, with drumbeaters in front and followers at the rear. He was therefore popularly called Danka Shah- the maulvi with the drum (danka). British officials panicked as thousands began following the maulvi and many Muslims began seeing him as an inspired prophet. When he reached Lucknow in 1856 he was stopped by the police from preaching in city. Subsequently, in 1857, he was jailed in Faizabad. When released, he was elected by the mutinous 22nd Native Infantry as their leader. He fought in the famous Battle of Chinhat in which the British forces under Henry Lawrence were defeated. He came to be known for his courage and power. Many people in fact believed that he was invincible, had magical powers, and could not be killed by the British. It was this belief that partly formed the basis of his authority.

- (i) By what name was Maulvi Ahmadullah Shah popularly known? 1
 (ii) How did Maulvi Ahmadullah Shah contribute to the Revolt of 1857? 1
 (iii) What beliefs about Maulvi Ahmadullah Shah contributed to his influence during the revolt? 2

SECTION-E

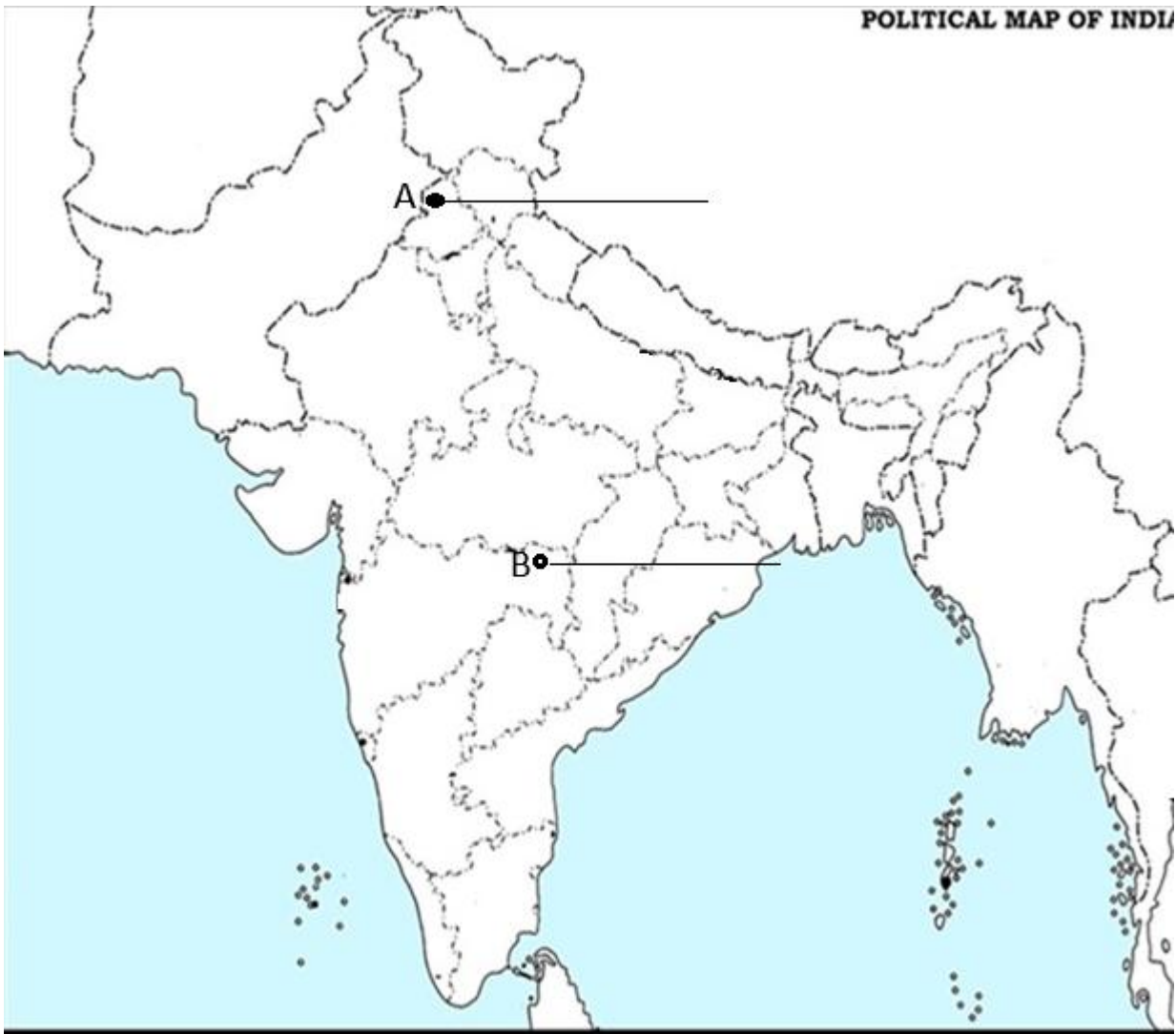
Q.34 (i) On the given political map of India, locate and label the following with appropriate symbols: 3

- a. Lothal- a mature Harappan site
- b. Ajmer- Dargha of Garib Nawaz
- c. Kaushambi- a pillar inscription

OR

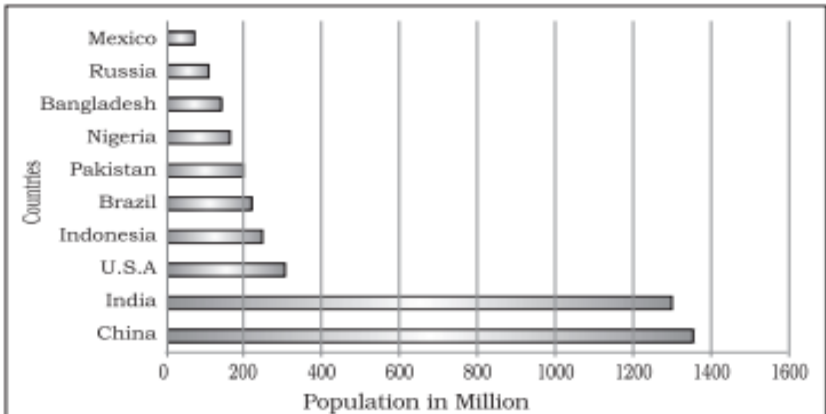
- d. Taxila- an ancient learning centre.

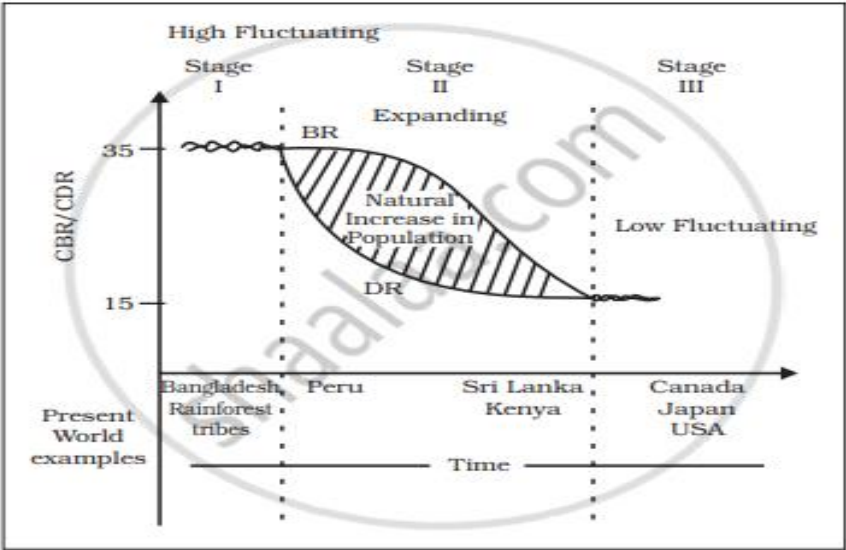
34.(ii) On the same outline map two places have been marked as A and B, which are the centres of Indian national Movement. Identify them and write their correct names on the lines drawn near them. 2



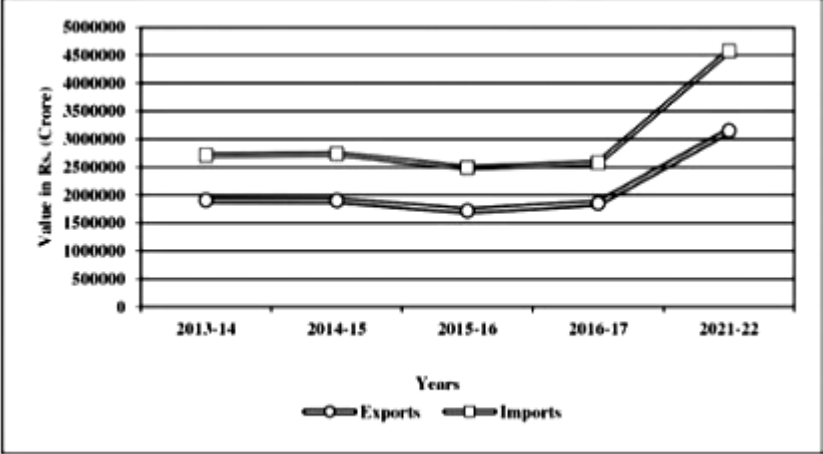
KENDRIYA VIDYALAYA SANGATHAN BHUBANESWAR REGION**FIRST PRE-BOARD EXAMINATION 2025-26 (SET-I)****CLASS: XII (HUMANITIES)****SUBJECT: GEOGRAPHY (029)****TIME ALLOWED: 3.00 HOURS****MAXIMUM MARKS: 70****GENERAL INSTRUCTIONS:**

1. This question paper contains 30 questions. All questions are compulsory.
2. This question paper is divided into five sections. Sections-A, B, C, D and E.
3. Section A- Question number 1 to 17 are Multiple Choice type questions carrying 1 mark each.
4. Section B- Question number 18 and 19 are Source based questions carrying 3 marks each.
5. Section C- Question number 20 to 23 are Short Answer type questions carrying 3 marks each. Answer to these questions shall be written in 80 to 100 words.
6. Section D- Question number 24 to 28 are Long Answer type questions carrying 5 marks each. Answer to these questions shall be written in 120 to 150 words.
7. Section E- Question number 29 and 30 are Map based questions carrying 5 marks each.
8. In addition to this, note that a separate question has been provided for Visually Impaired candidates in lieu of questions having visual inputs map etc. Such questions are to be attempted by Visually Impaired candidates only.
9. There is no overall choice given in the question paper. However, an internal choice has been provided in a few questions in all sections, except Section A.

SL. NO.	QUESTIONS	MARKS																						
	SECTION-A																							
1	<p>Refer to the bar graph displaying the population of various countries. How many countries shown in the graph have a population of 200 million or more?</p>  <table><caption>Population of Countries (in Million)</caption><tr><th>Country</th><th>Population (Million)</th></tr><tr><td>Mexico</td><td>100</td></tr><tr><td>Russia</td><td>120</td></tr><tr><td>Bangladesh</td><td>150</td></tr><tr><td>Nigeria</td><td>180</td></tr><tr><td>Pakistan</td><td>200</td></tr><tr><td>Brazil</td><td>220</td></tr><tr><td>Indonesia</td><td>250</td></tr><tr><td>U.S.A</td><td>300</td></tr><tr><td>India</td><td>1300</td></tr><tr><td>China</td><td>1400</td></tr></table>	Country	Population (Million)	Mexico	100	Russia	120	Bangladesh	150	Nigeria	180	Pakistan	200	Brazil	220	Indonesia	250	U.S.A	300	India	1300	China	1400	1
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	<p>A. 3 B. 5 C. 4 D. 6</p> <p>The following question is for Visually Impaired Candidates only in lieu of Question No.1.</p> <p>Which country has the highest population in the American continent?</p> <p>A. Brazil B. Mexico C. U.S.A. D. Argentina</p>	
2	<p>Study the graph given below and answer the following.</p>  <p>A country is currently experiencing high fertility and high mortality because people reproduce more to compensate for the deaths due to epidemics and variable food supply. The population growth is slow and most of the people are engaged in agriculture where large families are an asset. Based on the Demographic Transition Theory, this country is most likely in which stage?</p> <p>A. Stage I: High Fluctuating B. Stage II: Expanding C. Stage III: Low Fluctuating D. Pre-Transition Phase</p> <p>The following question is for Visually Impaired Candidates only in lieu of Question No.2.</p> <p>Which of the following is a characteristic of stage one of the Demographic Transition Theory?</p> <p>A. High fertility and high mortality B. Both fertility and mortality declined considerably C. High growth of population D. Fertility rate is high, and the mortality rate declines</p>	1

3	Countries with HDI below 0.550 are mostly characterized by— A. Rapid industrial growth and high per capita income B. Political turmoil, social instability, and poor health facilities C. Strong educational and healthcare infrastructure D. High levels of human security and equity	1										
4	Assertion (A): Natural growth of population includes migration factors. Reason (R): Natural growth depends on the difference between birth rate and death rate. A. Both (A) and (R) are true, and (R) is the correct explanation of (A). B. Both (A) and (R) are true, but (R) is not the correct explanation of (A). C. (A) is true, but (R) is false. D. (A) is false, but (R) is true.	1										
5	Select the activity that does not belong to the quaternary sector: A. Tax consultant providing information-based services B. Research scientist developing new medicines C. Accountant preparing financial statements for clients D. Delivery person transporting products to retailers	1										
6	<div>Match the pillars of Human Development with their characteristics:</div> <table><tr><th>Policies/Initiatives</th><th>Pillar of Human Development</th></tr><tr><td>1. Promoting community involvement in decision-making</td><td>a. Equity</td></tr><tr><td>2. Ensuring training programs for youth to enhance work skills</td><td>b. Sustainability</td></tr><tr><td>3. Conserving natural resources for future generations</td><td>c. Empowerment</td></tr><tr><td>4. Providing equal healthcare facilities to all regions</td><td>d. Productivity</td></tr></table> <div>A. 1-a, 2-b, 3-c, 4-d B. 1-b, 2-a, 3-d, 4-c C. 1-c, 2-d, 3-b, 4-a D. 1-d, 2-c, 3-a, 4-b</div>	Policies/Initiatives	Pillar of Human Development	1. Promoting community involvement in decision-making	a. Equity	2. Ensuring training programs for youth to enhance work skills	b. Sustainability	3. Conserving natural resources for future generations	c. Empowerment	4. Providing equal healthcare facilities to all regions	d. Productivity	1
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4. Providing equal healthcare facilities to all regions	d. Productivity											
7	Identify the incorrect statement about Regional Trade Blocs: A. Regional Trade Blocs promote trade among geographically close countries with complementary products. B. They were formed because global organizations successfully promoted intra-regional trade. C. Regional Trade Blocs remove trade tariffs within member nations. D. Free trade between different trading blocs may face difficulties in the future.	1										

8	<p>The given graph shows the trend of exports and imports (in Rs. Crores) over the years 2013-14 to 2021-22.</p>  <p><i>Source: Economic Survey 2022-23</i></p> <p>Which of the following statements is NOT correct according to the given graph?</p> <p>A. Imports remained constant throughout the period from 2013-14 to 2021-22. B. Exports and imports both showed an upward trend after 2016-17. C. There was no significant change in exports between 2013-14 and 2016-17 D. Imports increased significantly compared to exports from 2016-17 to 2021-22.</p> <p>The following question is for Visually Impaired Candidates only in lieu of Question No. 8</p> <p>Which one of these statements about India's trade is true?</p> <p>A. China and other East Asian countries are major competitors in India's exports. B. India faces no competition in engineering goods exports. C. Manufacturing contributes very little to India's total exports. D. Gems and jewellery are not part of India's foreign trade.</p>	1
9	<p>There are four distinct phases of population growth identified in India over the last one century. Identify the phase from the given description.</p> <p>The growth rate of country's population though remained high, has started slowing down gradually. A downward trend of crude birth rate is held responsible for such a population growth. This was in turn affected by an increase in the mean age at marriage, improved quality of life particularly education of females in the country. The growth rate of population is however still high in the country.</p> <p>A. Phase I (1901- 1921) B. Phase II (1921- 1951) C. Phase III (1951-1981) D. Phase IV (1981 to till present)</p>	1

10	<p>Why do regions with lower economic development often show higher work participation rates?</p> <p>A. More manual labor is required for subsistence activities</p> <p>B. They have more IT industries</p> <p>C. Their literacy rate is higher</p> <p>D. They have higher urbanization</p>	1																																		
11	<p>The Intensive Agricultural District Programme (IADP) and Intensive Agricultural Area Programme (IAAP) were launched to:</p> <p>A. Introduce HYVs of wheat and rice</p> <p>B. Overcome stagnation in agricultural production during late 1950s</p> <p>C. Export surplus foodgrains to other countries</p> <p>D. Promote cash crops over food crops</p>	1																																		
12	<p>Which of the following statements about agricultural land use in India between 1950-51 and 2014-15 is correct based on the table?</p> <p>A. The percentage of culturable waste land as part of total cultivable land increased, while net area sown as a percentage decreased.</p> <p>B. Total cultivable land as a percentage of reporting area dropped steeply, while fallow other than current fallow increased as a percentage of total cultivable land.</p> <p>C. The share of culturable waste land and fallow (other than current fallow) both declined as a percentage of reporting area, while current fallow and net area sown increased.</p> <p>D. Current fallow land and net area sown both fell as a percentage of reporting area, while the total cultivable land as a percentage of reporting area rose.</p> <table><tr><th rowspan="2">Agricultural Land-use Categories</th><th colspan="2">As a percentage of Reporting Area</th><th colspan="2">As a percentage of total cultivable land</th></tr><tr><th>1950-51</th><th>2019-20</th><th>1950-51</th><th>2019-20</th></tr><tr><td>Culturable Waste land</td><td>8.0</td><td>3.9</td><td>13.4</td><td>6.8</td></tr><tr><td>Fallow other than Current Fallow</td><td>6.1</td><td>3.7</td><td>10.2</td><td>6.4</td></tr><tr><td>Current Fallow</td><td>3.7</td><td>4.5</td><td>6.2</td><td>7.8</td></tr><tr><td>Net Area Sown</td><td>41.7</td><td>45.6</td><td>70.0</td><td>79.0</td></tr><tr><td>Total Cultivable Land</td><td>59.5</td><td>57.7</td><td>100.00</td><td>100.00</td></tr></table>	Agricultural Land-use Categories	As a percentage of Reporting Area		As a percentage of total cultivable land		1950-51	2019-20	1950-51	2019-20	Culturable Waste land	8.0	3.9	13.4	6.8	Fallow other than Current Fallow	6.1	3.7	10.2	6.4	Current Fallow	3.7	4.5	6.2	7.8	Net Area Sown	41.7	45.6	70.0	79.0	Total Cultivable Land	59.5	57.7	100.00	100.00	1
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13	<p>Consider the following statements about the implementation of the Atal Bhujal Yojana (Atal Jal):</p> <ol style="list-style-type: none">1. It focuses on bringing behavioural changes among communities in water-stressed areas.2. It aims to shift the attitude of people from water consumption to conservation.3. It seeks to improve groundwater management through community participation.4. It includes both urban and rural regions of all Indian states. <p>A. 1, 2 and 3 only</p> <p>B. 1, 3 and 4 only</p> <p>C. 2, 3 and 4 only</p> <p>D. 1, 2, 3 and 4</p>	1																																		

14	<p>The district administration of Alwar, Rajasthan has taken up constructions of various water harvesting structures such as percolation tanks, dug out ponds (Johad), check dams, etc., through people’s participation.</p> <p>Which of the following program is related to this?</p> <p>A. Neeru Meeru B. Haryali C. Arvary Pani Sansad D. Jal Kranti Abhiyan</p>	1										
15	<p>Assertion (A): A geothermal energy plant has been commissioned at Manikaran in Himachal Pradesh.</p> <p>Reason (R): Manikaran has natural hot springs that can be used to generate geothermal energy.</p> <p>Options:</p> <p>A. Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of Assertion (A). B. Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A). C. Assertion (A) is true, but Reason (R) is false. D. Assertion (A) is false, but Reason (R) is true.</p>	1										
16	<p>Match the Trans–Continental Railway (Column A) with its route (Column B):</p> <table><tr><th>Column A (Trans–Continental Railway)</th><th>Column B (Route)</th></tr><tr><td>a. Australian Trans–Continental Railway</td><td>1. St. Petersburg → Vladivostok</td></tr><tr><td>b. Trans–Siberian Railway</td><td>2. Perth → Sydney</td></tr><tr><td>c. The Orient Express</td><td>3. Paris → Istanbul</td></tr><tr><td>d. Union and Pacific Railway</td><td>4. New York → San Francisco</td></tr></table> <p>A. a-3, b-4, c-1, d-2 B. a-2, b-1, c-3, d-4 C. a-1, b-2, c-3, d-4 D. a-4, b-1, c-2, d-3</p>	Column A (Trans–Continental Railway)	Column B (Route)	a. Australian Trans–Continental Railway	1. St. Petersburg → Vladivostok	b. Trans–Siberian Railway	2. Perth → Sydney	c. The Orient Express	3. Paris → Istanbul	d. Union and Pacific Railway	4. New York → San Francisco	1
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17	<p>Consider the following statements about Pawan Hans Limited:</p> <ol style="list-style-type: none">1. It provides helicopter services mainly for the petroleum sector and tourism.2. It plays an important role in providing connectivity in difficult terrains and remote regions.3. It operates helicopter services in hilly and remote areas of India.4. It is widely used by tourists, particularly in the north-eastern region. <p>Which of the above statements are correct?</p> <p>A. 1, and 4 only B. 1, 2, 3 and 4 C. 1 and 2 only D. 2, 3 and 4 only</p>	1										

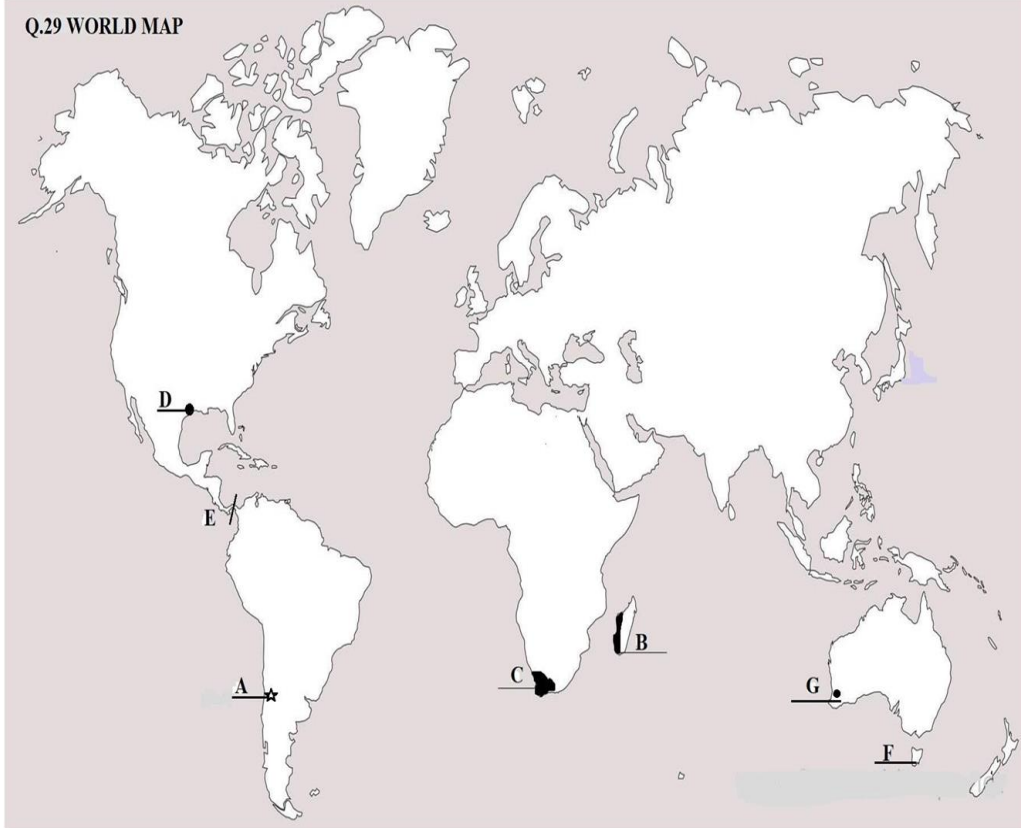
	SECTION-B	
18	<p>Read the given passage carefully and answer the questions that follows:</p> <p>Benda lives in the wilds of the Abujh Maad area of central India. His village consists of three huts deep in the wilds. Not even birds or stray dogs that usually crowd villages can be seen in these areas. Wearing a small loin cloth and armed with his axe he slowly surveys the penda (forest) where his tribe practices a primitive form of agriculture called shifting cultivation. Benda and his friends burn small patches of forest to clear them for cultivation. The ash is used for making the soil fertile. Benda is happy that the Mahua trees around him are in bloom. How lucky I am to be a part of this beautiful universe, he thinks as he looks up to see the Mahua, Palash and Sal trees that have sheltered him since childhood. Crossing the penda in a gliding motion, Benda makes his way to a stream. As he bends down to scoop up a palmful of water, he remembers to thank Loi-Lugi, the spirit of the forest for allowing him to quench his thirst. Moving on with his friends, Benda chews on succulent leaves and roots. The boys have been trying to collect Gajjhara and Kuchla, from the forest. These are special plants that Benda and his people use. He hopes the spirits of the forest will be kind and lead him to these herbs. These are needed to barter in the madhai or tribal fair coming up the next full moon. He closes his eyes and tries hard to recall what the elders had taught him about these herbs and the places they are found in. He wishes he had listened more carefully. Suddenly there is a rustling of leaves. Benda and his friends know it is the outsiders who have come searching for them in the wilds. In a single fluid motion Benda and his friends disappear behind the thick canopy of trees and become one with the spirit of the forest.</p> <p>i. Name the type of human nature relationship described in the passage.</p> <p>ii. Identify the type of agriculture practiced by Benda's tribe in the Abujh Maad region.</p> <p>iii. State the purpose for which Benda and his friends collect Gajjhara and Kuchla.</p>	<p>1</p> <p>1</p> <p>1</p>
19	<p>Read the given passage carefully and answer the questions that follows:</p> <p>Countries can be classified into four groups on the basis of the human development scores earned by them. Countries with very high human development index are those which have a score of over 0.800. According to the Human Development Report of 2023-24, this group includes 69 countries. High level of human development group has 49 countries. Providing education and healthcare is an important government priority. Countries with higher human development are those where a lot of investment in the social sector has taken place. Altogether, a higher investment in people and good governance has set this group of countries apart from the others.</p> <p>You will notice that many of these countries have been the former imperial powers. The degree of social diversity in these countries is not very high. Many of the countries with a high human development score are located in Europe and</p>	

	<p>represent the industrialised western world. Yet there are striking numbers of non-European countries also who have made it to this list.</p> <p>Countries with medium levels of human development form the largest group. There are 42 countries in the medium level of human development. Most of these are countries which have emerged in the period after the Second World War. Some countries from this group were former colonies while many others have emerged after the break-up of the erstwhile Soviet Union in 1990. Many of these countries have been rapidly improving their human development score by adopting more people-oriented policies and reducing social discrimination. Most of these countries have a much higher social diversity than the countries with higher human development scores. faced political instability and social uprisings at some point of time in their recent history.</p> <p>As many as 33 countries record low levels of human development. A large proportion of these are small countries which have been going through political turmoil and social instability in the form of civil war, famine or a high incidence of diseases. There is an urgent need to address the human development requirements of this group through well thought out policies.</p> <p>i. Specify the factors that distinguish nations with higher human development from others.</p> <p>ii. Identify the major global event responsible for the formation of many medium human development nations.</p> <p>iii. State the major issues commonly faced by nations with low human development.</p>	<p>1</p> <p>1</p> <p>1</p>
	SECTION-C	
20	Define the term outsourcing. What are the consequences of outsourcing?	3
21	Examine the economic significance of the Trans–Canadian Railway.	3
22	Explain the main objective of the Smart Cities Mission and how it aims to improve the quality of urban life.	3
23	<p>“The period 1901–1921 is referred to as a period of stagnant or stationary population growth in India.” Explain the statement by giving three reasons.</p> <p>OR</p> <p>Explain the objectives of the national youth policy adopted by the Government of India in 2014.</p>	3
	SECTION-D	
24	<p>“Unlike nomadic herding, commercial livestock rearing is more organised and capital intensive”. Substantiate the given statement by giving any five reasons.</p> <p>OR</p> <p>“Mining plays a key role in human development.” Discuss the methods of mining and how its impacts vary between developed and developing nations.</p>	5

25	Differentiate between “Household or Cottage Manufacturing and Small-Scale Manufacturing”.	5																														
<div>OR</div> <p>Major concentrations of modern manufacturing have flourished in a few numbers of places. Explain with examples.</p>																																
26	“Human beings pollute the water through industrial and agricultural activities”. Explain the main causes of water pollution with special reference to industrial and agricultural activities.	5																														
<div>OR</div> <p>Why is the urban waste disposal being a serious problem in India? Explain.</p>																																
27	<p>Study the table showing the composition of India’s exports since 2015-2021 and answer the question.</p> <div>(Percentage share in Exports)</div> <table><tr><th>Commodities</th><th>2015-16</th><th>2016-17</th><th>2020-21</th><th>2021-22</th></tr><tr><td>Agriculture and allied products</td><td>12.6</td><td>12.3</td><td>14.3</td><td>11.9</td></tr><tr><td>Ore and Minerals</td><td>1.6</td><td>1.9</td><td>3.2</td><td>2.0</td></tr><tr><td>Manufactured goods</td><td>72.9</td><td>73.6</td><td>71.2</td><td>67.8</td></tr><tr><td>Crude and petroleum products</td><td>11.9</td><td>11.7</td><td>9.2</td><td>16.4</td></tr><tr><td>Other commodities</td><td>1.1</td><td>0.5</td><td>2.1</td><td>1.9</td></tr></table> <p>Source : Economic Survey 2016-17 and 2022-23</p> <p>“The composition of commodities in India’s international trade has been undergoing a change over the years.” Analyse the statement.</p>	Commodities	2015-16	2016-17	2020-21	2021-22	Agriculture and allied products	12.6	12.3	14.3	11.9	Ore and Minerals	1.6	1.9	3.2	2.0	Manufactured goods	72.9	73.6	71.2	67.8	Crude and petroleum products	11.9	11.7	9.2	16.4	Other commodities	1.1	0.5	2.1	1.9	5
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28	<p>Describe the objectives and benefits of the Drought-Prone Area Programme in improving dryland farming in India.</p> <div>OR</div> <p>The Indira Gandhi Canal Project has changed the agricultural scenario of Rajasthan. Justify the statement by suggesting the positive and negative impacts of irrigation on the Indira Gandhi Canal Command Area.</p>	5																														

	SECTION-E	
29	<p>On the given political map of the World, seven geographical features have been marked as A, B, C, D, E, F and G. Identify any five with the help of the following information and write their correct names.</p> <p>A. A Major Airport B. An Area of Nomadic Herding C. An Area of extensive commercial grain farming D.A major sea port E.A shipping canal F. Area of dairy farming G. A terminal railway station</p> <p>The following questions are for Visually Impaired Candidates only in lieu of Question No.29. Answer any five questions out of the following:</p> <p>A. Name the major Airport of chili. B. Name the nomadic herding area of Africa continent. C. Name the area of extensive commercial grain farming in South Africa. D. Name the international airport of USA located near Gulf of Mexico E. Name the shipping canal which connect Pacific Ocean from Atlantic Ocean F. Area of dairy farming located in south of Australia G. Name the western terminal station Australian Continental railway</p>	5
30	<p>Locate and label any five of the following geographical features on the Political Outline map of India with appropriate symbols:</p> <p>A. An important bauxite mine in Odisha. B. Westernmost seaport of India C. An oil refinery in Uttar Pradesh D. The state with lowest population density. E. The state leading in the production of coffee F. An international airport in Punjab. G. An important copper mine in Rajasthan</p> <p>The following questions are for visually impaired students in lieu of Question No.30. Attempt any five.</p> <p>A. Name an important bauxite mine in Odisha. B. Name Westernmost seaport of India C. Name an oil refinery in Uttar Pradesh D. Name the state with lowest population density. E. Name the state leading in the production of coffee F. Name the international airport in Punjab. G. Name an important copper mine in Rajasthan</p>	5

Q.29 WORLD MAP



30.

