

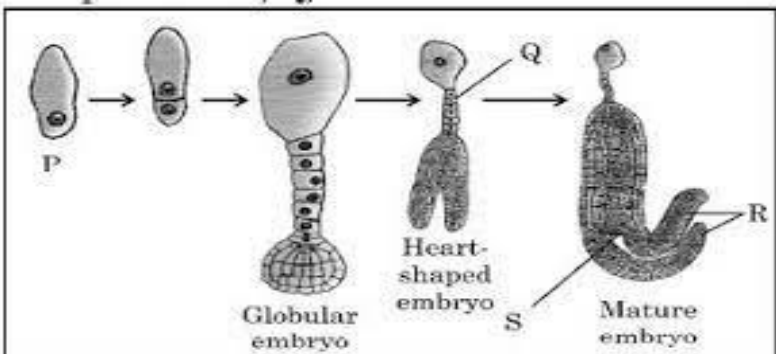
KENDRIYA VIDYALAYA SANGATHAN: RANCHI REGION
SECOND PRE-BOARD EXAMINATION (2025-2026)
CLASS- XII
SUBJECT-BIOLOGY (044)

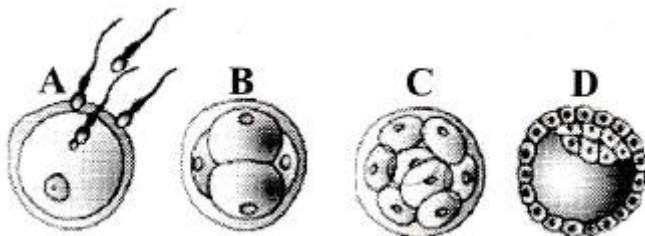
MAX. MARKS: 70

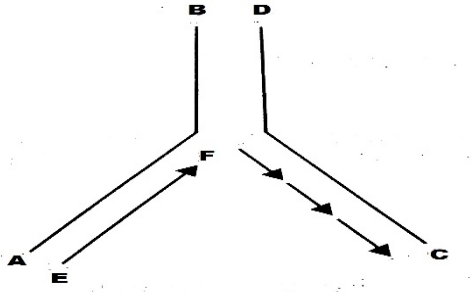
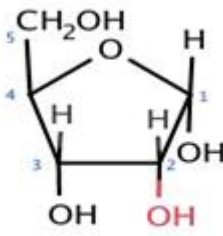
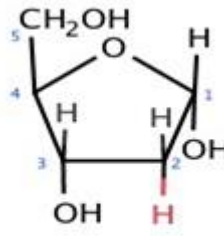
TIME: 3 HRS

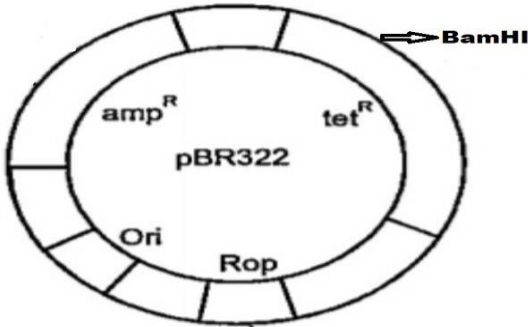
General Instructions:

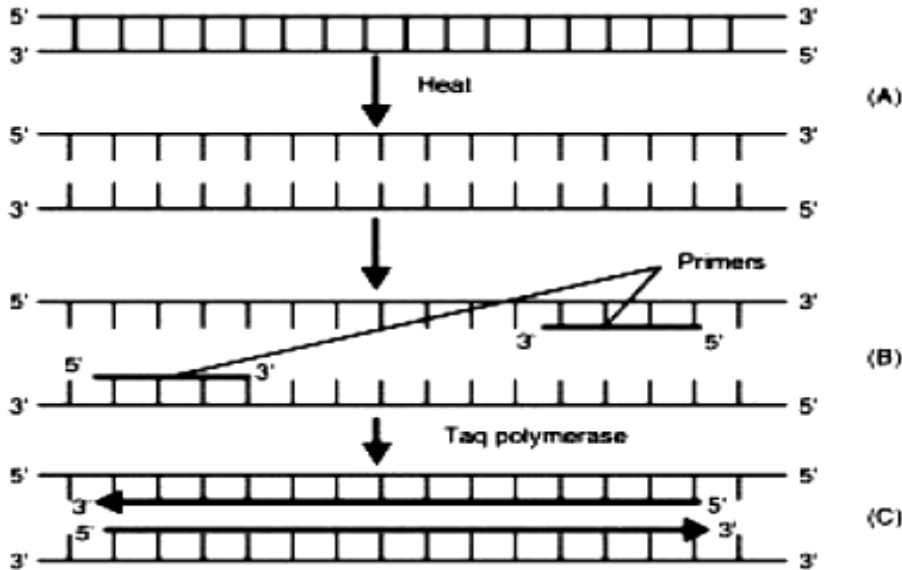
- (i) All questions are **compulsory**.
- (ii) The question paper has five sections and 33 questions
- (iii) Section–A has 16 questions of 1 mark each; Section–B has 5 questions of 2 marks each; Section– C has 7 questions of 3 marks each; Section– D has 2 case-based questions of 4 marks each; and Section–E has 3 questions of 5 marks each.
- (iv) There is no overall choice. Answer all 33 questions. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.
- (v) Wherever necessary, neat and properly labelled diagrams should be drawn.

Q.NO.	SECTION-A	MARKS																				
	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.																					
1.	The diagram given below shows labelling of four parts of a dicot embryo during its development as P, Q, R and S.  Choose the option that indicates correct labelling of 'P', 'Q', 'R' and 'S' of embryo in different stages of its development: <table><tr><th>P</th><th>Q</th><th>R</th><th>S</th></tr><tr><td>a) Egg</td><td>Suspensor</td><td>Radicle</td><td>Cotyledon</td></tr><tr><td>b) Zygote</td><td>Suspensor</td><td>Cotyledon</td><td>Plumule</td></tr><tr><td>c) Egg</td><td>Radicle</td><td>Suspensor</td><td>Cotyledon</td></tr><tr><td>d) Zygote</td><td>Suspensor</td><td>Cotyledon</td><td>Radicle</td></tr></table>	P	Q	R	S	a) Egg	Suspensor	Radicle	Cotyledon	b) Zygote	Suspensor	Cotyledon	Plumule	c) Egg	Radicle	Suspensor	Cotyledon	d) Zygote	Suspensor	Cotyledon	Radicle	1
P	Q	R	S																			
a) Egg	Suspensor	Radicle	Cotyledon																			
b) Zygote	Suspensor	Cotyledon	Plumule																			
c) Egg	Radicle	Suspensor	Cotyledon																			
d) Zygote	Suspensor	Cotyledon	Radicle																			
2.	Which of the following statements are true related to seed X and Y?  SEED X SEED Y i) Seed X is dicot and endospermic or albuminous. ii) Seed X is dicot and non-endospermic or non-albuminous. iii) Seed Y is monocot and endospermic or albuminous. iv) Seed Y is monocot and non-endospermic or non-albuminous.	1																				

	Choose the correct option with respect to the nature of seed. a) (i), (ii) b) (ii), (iii) c) (i), (iv) d) (ii), (iv)																										
3.	The following diagram shows the different stages in the human embryonic development.  Identify the correct labelling for A, B, C and D and select the correct option from the table given below <table><tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td></tr><tr><td>a)</td><td>Fertilisation</td><td>Cleavage</td><td>Morula</td><td>Blastocyst</td></tr><tr><td>b)</td><td>Morula</td><td>Fertilisation</td><td>Blastocyst</td><td>Cleavage</td></tr><tr><td>c)</td><td>Cleavage</td><td>Morula</td><td>Blastocyst</td><td>Fertilisation</td></tr><tr><td>d)</td><td>Blastocyst</td><td>Morula</td><td>Cleavage</td><td>Fertilisation</td></tr></table>		A	B	C	D	a)	Fertilisation	Cleavage	Morula	Blastocyst	b)	Morula	Fertilisation	Blastocyst	Cleavage	c)	Cleavage	Morula	Blastocyst	Fertilisation	d)	Blastocyst	Morula	Cleavage	Fertilisation	1
	A	B	C	D																							
a)	Fertilisation	Cleavage	Morula	Blastocyst																							
b)	Morula	Fertilisation	Blastocyst	Cleavage																							
c)	Cleavage	Morula	Blastocyst	Fertilisation																							
d)	Blastocyst	Morula	Cleavage	Fertilisation																							
4.	Match the items of column I with those in column II and select the correct option <table><tr><th>Column I</th><th>Column II</th></tr><tr><td>A. ABO blood group in humans B. Flower colour in snapdragon C. Human skin colour D. phenylketonuria</td><td>1. polygenic inheritance 2. mendelian genetic disorder 3. sex-linked mendelian disorder 4. incomplete dominance 5. multiple allelism</td></tr></table> a) A-3, B-4, C-1, D-5 b) A-4, B-3, C-1, D-5 c) A-5, B-4, C-1, D-2 d) A-4, B-5, C-1, D-2	Column I	Column II	A. ABO blood group in humans B. Flower colour in snapdragon C. Human skin colour D. phenylketonuria	1. polygenic inheritance 2. mendelian genetic disorder 3. sex-linked mendelian disorder 4. incomplete dominance 5. multiple allelism	1																					
Column I	Column II																										
A. ABO blood group in humans B. Flower colour in snapdragon C. Human skin colour D. phenylketonuria	1. polygenic inheritance 2. mendelian genetic disorder 3. sex-linked mendelian disorder 4. incomplete dominance 5. multiple allelism																										
5.	A list of some amino acids and their respective codons on mRNA is given below. <table><tr><th>Amino Acid</th><th>Codon on mRNA</th></tr><tr><td>Arginine</td><td>CGA</td></tr><tr><td>Tryptophan</td><td>UGG</td></tr><tr><td>Lysine</td><td>AAG</td></tr><tr><td>Tyrosine</td><td>UAC</td></tr></table> Select the DNA sequence that would code for the oligopeptide sequence; a) ACCTTCGCTATG b) TGGAAGCGATAC c) AGGUUCGCUAUG d) UGGAAGCGAUAC	Amino Acid	Codon on mRNA	Arginine	CGA	Tryptophan	UGG	Lysine	AAG	Tyrosine	UAC	1															
Amino Acid	Codon on mRNA																										
Arginine	CGA																										
Tryptophan	UGG																										
Lysine	AAG																										
Tyrosine	UAC																										
6.	A DNA replication fork is shown below. Identify the option with the correct polarity of the strands in it.	1																									

	 a) A - B 3'→5', E - F 5'→3' b) A - B 5'→3', C - D 3'→5' c) C - D 3'→5', E - F 5'→3' d) C - D 5'→3', E - F 3'→5'	
7.	Choose the correct option about the pentoses represented below: -  A  B a) A is ribose, which is quite stable b) A is deoxyribose, which is quite stable c) A is ribose, that is reactive d) B is deoxyribose, that is reactive	1
8.	9. Identify the option that gives the correct type of evolution exhibited by the two animals shown, living in the same habitat in Australia.   Mouse Marsupial mouse (a) Convergent Evolution (b) Disruptive Selection (c) Divergent Evolution (d) Homologous Ancestry	1
9.	Which of the following factors that alter the Hardy-Weinberg equilibrium in a population can lead to Founder Effect? a) Genetic drift b) Mutation c) Gene migration d) Natural selection	1

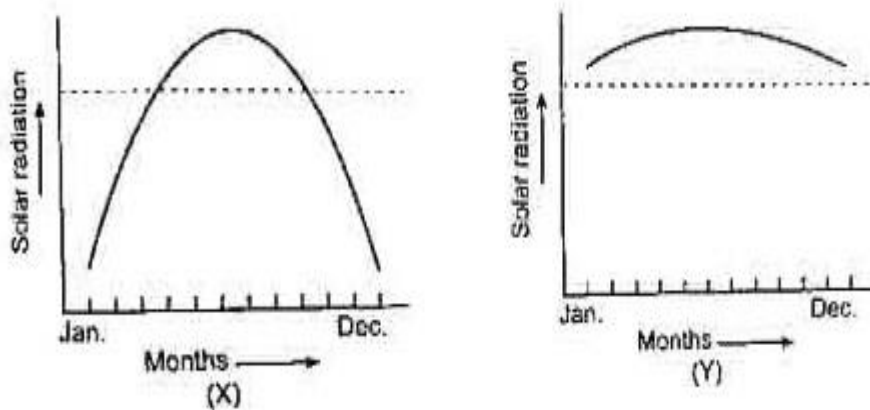
10.	The source of 'Smack' is: - Leaves of Cannabis sativa - Flowers of Datura - Fruits of Erythroxylum coca - Latex of Papaver somniferum	1															
11.	The figure below shows the structure of a plasmid: -  A foreign DNA was ligated at BamHI. The transformants were then grown in a medium containing antibiotics tetracycline and ampicillin. Choose the correct observation for the growth of bacterial colonies from the given table. <table border="1"> <thead> <tr> <th></th><th>Medium with tetracycline</th><th>Medium with ampicillin</th></tr> </thead> <tbody> <tr> <td>(a)</td><td>Growth</td><td>No growth</td></tr> <tr> <td>(b)</td><td>No growth</td><td>Growth</td></tr> <tr> <td>(c)</td><td>No growth</td><td>No growth</td></tr> <tr> <td>(d)</td><td>Growth</td><td>Growth</td></tr> </tbody> </table>		Medium with tetracycline	Medium with ampicillin	(a)	Growth	No growth	(b)	No growth	Growth	(c)	No growth	No growth	(d)	Growth	Growth	1
	Medium with tetracycline	Medium with ampicillin															
(a)	Growth	No growth															
(b)	No growth	Growth															
(c)	No growth	No growth															
(d)	Growth	Growth															
12.	Biopiracy means..... - Use of biopatents. - Thefts of plants and animal - Stealing of bioresources. - Exploitation of bioresources without authentic permission.	1															
	The following questions consist of two statements each, printed as Assertion and Reason. While answering these questions, choose any one of the following four responses. - If both Assertion and Reason are true and Reason is the correct explanation of Assertion. - If both Assertion and Reason are true but reason is not the correct explanation of Assertion. - If Assertion is true but Reason is false. - If Assertion is false but Reason is true.																
13.	Assertion: Apomictic fruits are seedless. Reason: Apomictic fruits are formed without fertilisation.	1															
14.	Assertion: Wings of butterfly and birds show analogy. Reason: Analogous organs are anatomically different but functionally similar.	1															
15.	Assertion: More and more children in metro cities of India suffer from allergies and asthma	1															

	due to sensitivity to the environment. Reason: Modern day lifestyle and a protected environment in early life has resulted in lowering the immunity.	
16.	Assertion: Human insulin is produced in E. coli using biotechnological processes. Reason: In mammals' insulin is synthesised as a pro-hormone which contains an extra stretch of protein.	1
	SECTION- B	
17.	<u>Attempt either option A or B</u> Draw the diagram of microsporangium of an angiosperm and label any four parts. OR What is cleistogamy? Write one advantage and one disadvantage of it, to the plant	2
18.	cryIAb is introduced in a plant to control infestation by corn borer. (a) Name the resultant plant after successful insertion of the gene desired. (b) Summarise the action of the gene introduced.	2
19.	In the given figure, one cycle of polymerase chain reaction (PCR) is shown.  a) Name the steps A, B and C. b) State the contribution of bacterium <i>Thermus aquaticus</i> in this process.	2
20.	<u>Attempt either option A or B</u> (a) Given below is a single stranded DNA molecule. Frame and label its sense and antisense RNA molecule. 5' ATGGGGCTC 3' (b) How the RNA molecules made from above DNA strand help in silencing of the specific RNA molecules? OR	2
21.	<u>Attempt either option A or B</u>	2

- A) i) Name the type of detritus that decomposes faster. List any two factors that enhance the rate of decomposition.
 ii) Write the different steps taken in humification and mineralisation during the process of decomposition.

OR

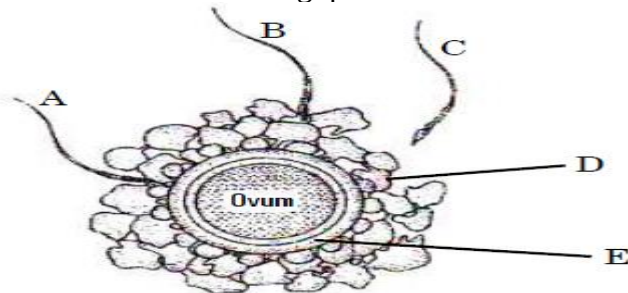
- B) Study the given graphs (X) and (Y) depicting the annual variation in solar radiation on Earth from January to December and answer the undermentioned questions.



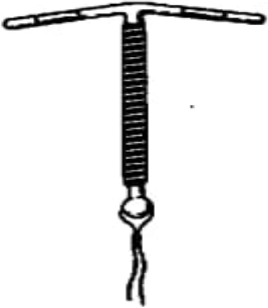
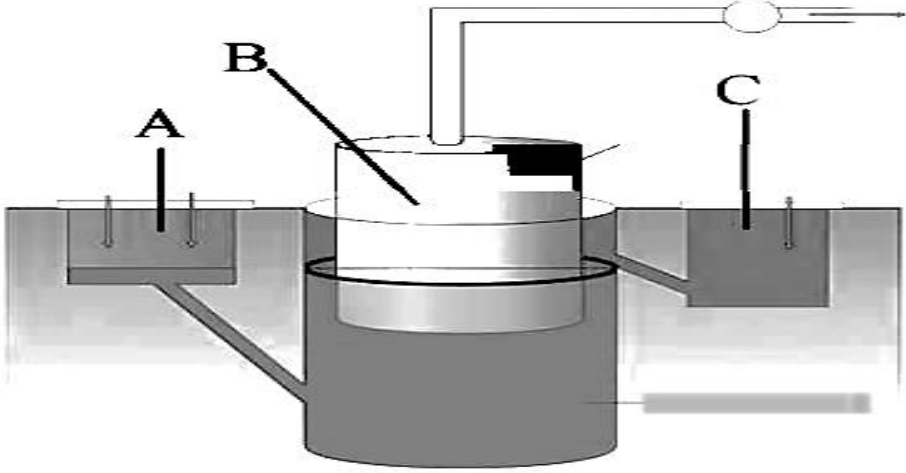
- (a) Identify the graph that depicts (i) tropical region and (ii) temperate region, respectively.
 (b) Which of the two regions (X) or (Y), will show high biological diversity and why? Give two reasons.

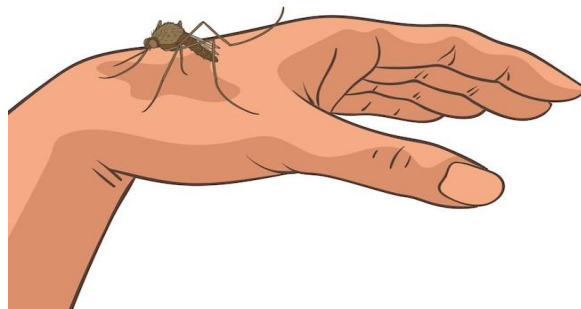
SECTION-C

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



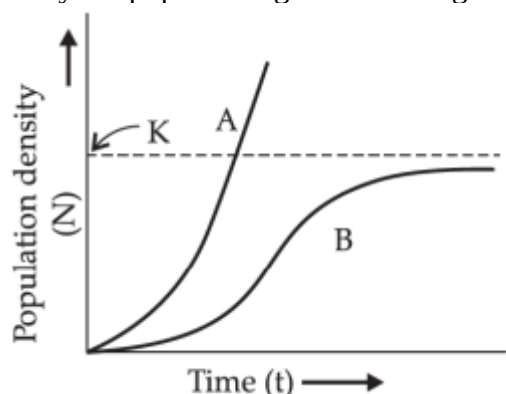
- (a) Which one of the sperms would reach the ovum earlier?
 (b) Identify 'D' and 'E'. Mention the role of 'E'.
 (c) Mention what helps the entry of sperm into the ovum and write the changes occurring in the ovum during the process.

23.	a) Name and identify the type of the contraceptive device shown below:  b) Mention the mode of its action as a contraceptive device. c) Give two other examples of contraceptive devices of the same category.	3
24.	a) Name the kind of diseases/disorders that are likely to occur in humans if - Mutation in the gene that codes for an enzyme phenylalanine hydroxylase occurs - There is an extra copy of chromosome 21 - The karyotype is XXY. b) Mention any one symptom of the diseases/disorders named above.	3
25.	(a) Name the two primate ancestors of the present-day humans, who existed approximately about 15 million years ago. (b) According to geological records, when and where did Australopithecines live? (c) Give two differences between Homo habilis and Homo erectus.	3
26.	Given below is a figure of biogas plant observe it carefully and answer the following questions: -  a) Identify substrate A and name the group of organisms that act upon it. b) Identify product B and discuss its significance. c) Write the composition of product B.	3
27.	The picture given below shows a mosquito infected with malarial parasite biting a human. Answer the questions given below the diagram.	3



- Write the name of the mosquito vector and the stage in the life cycle of the parasite, it introduces into the human body.
- Describe the life cycle of malarial parasite in human being in the form of a flow chart.

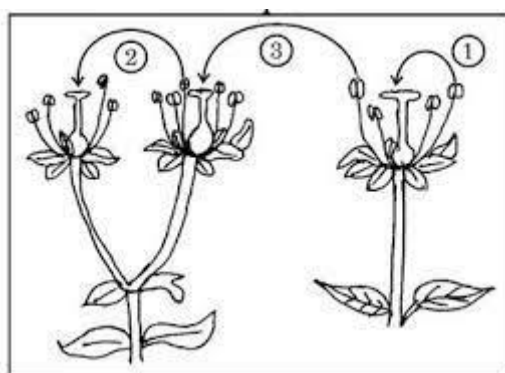
28. Study the population growth curve given below and answer the questions that follows: -



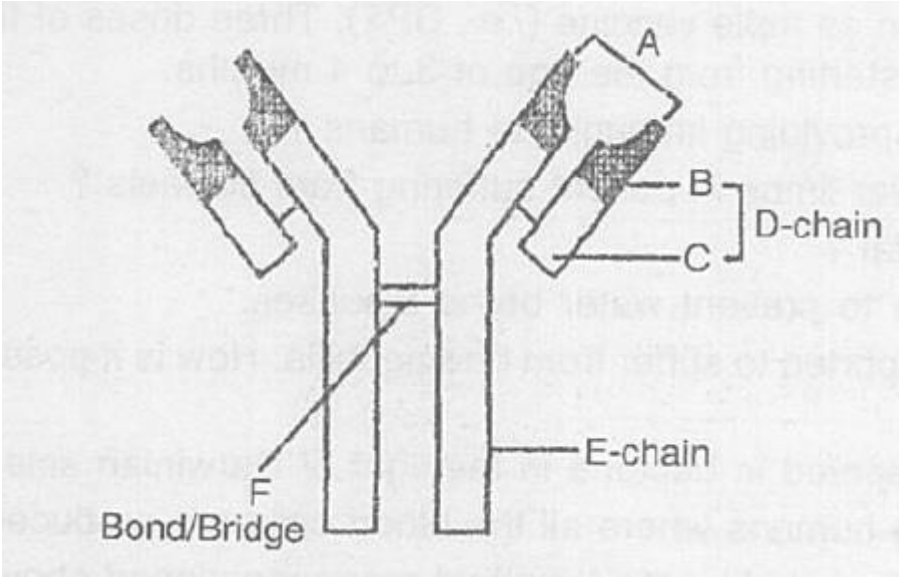
- Identify the growth curves a and b.
- When and why do such curves occur in a population?
- Which one of them is considered a more realistic one and why?

SECTION-D (CASE- BASED QUESTIONS)- Each question has sub-parts with internal choice in one sub-part.

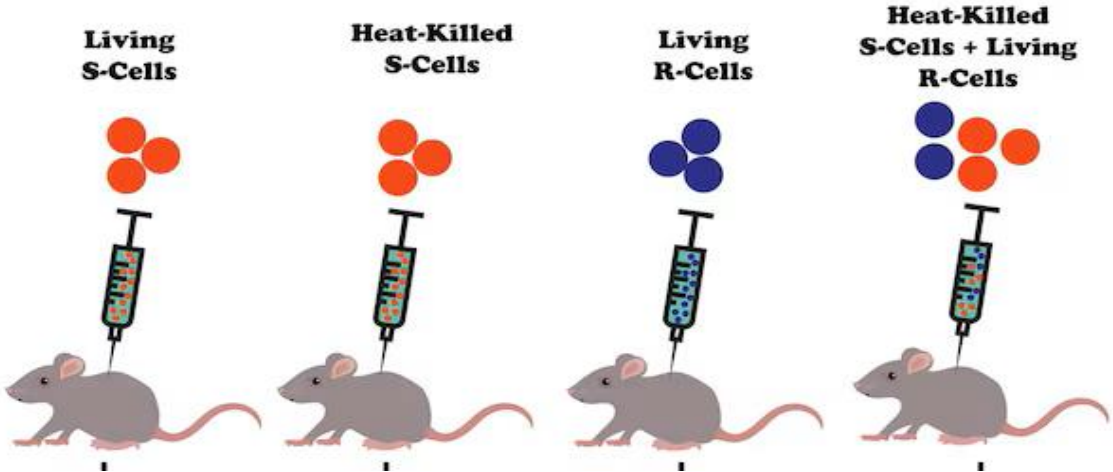
29. The given diagram shows three methods of pollen transfer in plants. Observe the diagram carefully and answer the following questions.



- Write the technical terms used for pollen transfer methods '1', '2' and '3'.
 - Write advantage of pollen transfer in method '3'.
- Attempt either sub-part C or D.**
- Flowering plants have developed many devices to avoid inbreeding depression. Explain any two devices which help plants to achieve this target.
- OR**
- Explain any two different modes of pollination that can occur in chasmogamous flowers.

30.	When our body encounters a pathogen, the immune system of our body produces antibodies in response to the pathogen. Study the cartoon of an antibody molecule given below and answer the questions that follows.  a) Write (i) the chemical nature of the antibody and (ii) the cells of our immune system, which produce them. b) Name the four types of antibodies produced in our body. <u>Attempt either sub-part C or D.</u> c) Why are antibody said to provide humoral immune response? Identify A in the diagram and mention its significance. OR d) A boy of 11 years had chicken pox. His mother told him that he is not expected to have the same disease for the rest of his life. Mention how it is possible.	4
-----	---	---

SECTION-E

31.	In 1928, Frederick Griffith conducted a series of experiments on bacterial transformation using the bacterium causing pneumonia as illustrated below. Answer the questions that follow:  a) Write the scientific name of the bacterium that causes pneumonia. b) In which of the four experiments did the mouse die?	5
-----	---	---

- c) Differentiate between R strain and S strain of the bacterium.
- d) Discuss the conclusion at which Griffith arrived at.
- e) State the biochemical nature of 'transforming principle'.

OR

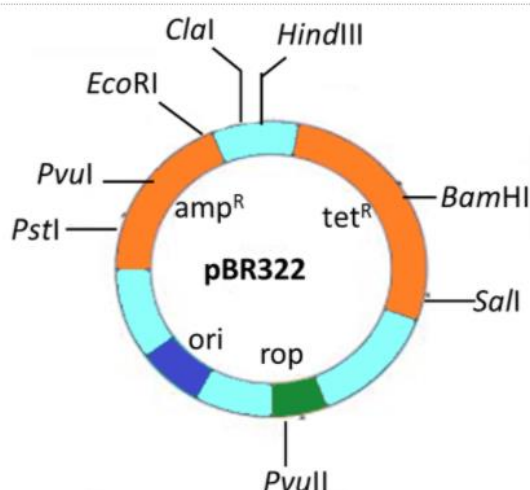
Meselson and Stahl carried out an experiment to prove the nature of DNA replication. Recall the experiment and answer the following questions.

- (a) Which two types of nitrogen were used by them in their experiment and why?
- (b) Why did they take samples of *E. coli* at definite time intervals for their observation?
- (c) State the role of caesium chloride density gradient in their experiment.
- (d) Write the conclusions they arrived at.

32.

Observe the diagram shown below of pBR 322 and answer the questions that follows.

5

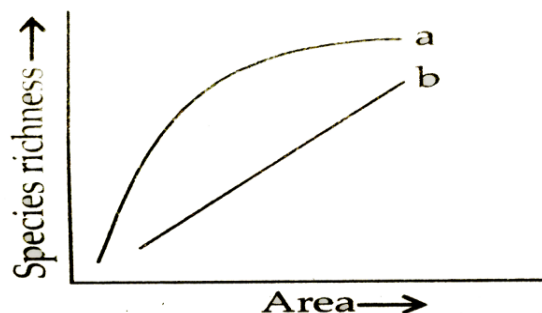


- i) What is pBR322?
- ii) Write the role of 'rop' gene.
- iii) State the significance of amp^R and tet^R .
- iv) 'Insertional inactivation' is a method to detect recombinant DNA. Explain the method.

OR

- a) With the help of diagrams show the different steps in the formation of recombinant DNA by action of restriction endonuclease enzyme *EcoRI*.
- b) Name the technique that is used for separating the fragments of DNA cut by restriction endonuclease.

- i. The following graph shows the species-area relationship. Answer the following questions as directed.



- a) Name the naturalist who studied the kind of relationship shown in the graph.
 - b) Write the observation made by the naturalist.
 - c) Write the equation for curve 'a' and 'b'.
- ii. How did Dr. David Tilman relate experimentally, the stability of a community and its species richness? Explain.

OR

- a) What is a trophic level in an ecosystem? What is 'standing crop' with reference to it?
- b) Explain the role of the 'first trophic level' in an ecosystem.
- c) How is the detritus food chain connected with the grazing food chain in a natural ecosystem?
- d) What will happen to an ecosystem if all producers are removed?

Kendriya Vidyalaya Sangathan: Ranchi Region**Second Pre-Board Examination 2025-26****Class: XII****Subject : Physics (042)****Maximum Marks: 70****Duration: 3 Hours****General Instructions:**

(1) There are 33 questions in all. All questions are compulsory.

(2) This question paper has five sections: **Section A, Section B, Section C, Section D and Section E.**

(3) All the sections are compulsory.

(4) Section A contains **sixteen** questions, **twelve MCQ** and **four assertion reasoning** based of **1 mark** each, Section B contains **five** questions of **two marks** each, Section C contains **seven** questions of **three** marks each, Section D contains **two** case study-based questions of **four marks** each and Section E contains **three** long answer questions of **five marks** each.

(5) There is no overall choice. However, an internal choice has been provided in two question in Section B, one question in Section C and all three questions in Section E. You have to attempt only one of the choices in such questions.

(6) Use of calculators is not allowed.

(7) You may use the following values of physical constants where ever necessary. You may use the following values of physical constants wherever necessary:

i. $c = 3 \times 10^8$ m/s

ii. $m_e = 9.1 \times 10^{-31}$ kg

iii. $m_p = 1.7 \times 10^{-27}$ kg

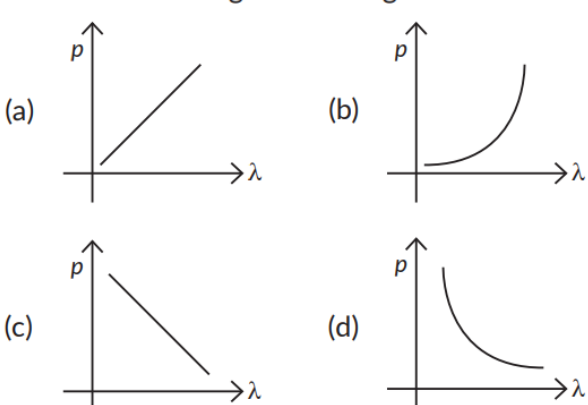
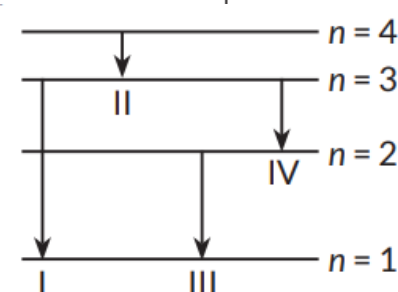
iv. $e = 1.6 \times 10^{-19}$ C

v. $\mu_0 = 4\pi \times 10^{-7}$ T m A^{-1}

vi. $h = 6.63 \times 10^{-34}$ J s

vii. $\epsilon_0 = 8.854 \times 10^{-12}$ $C^2 N^{-1} m^{-2}$

viii. Avogadro's number = 6.023×10^{23} per gram mole

1.	A charge Q is divided into two parts of q and $Q-q$. if the coulomb repulsion between them when they are separated is to be maximum, the ratio of Q/q should be: (a) 2:1 (b) 1:2 (c) 4:1 (d) 1:4	1
2.	Equipotential surfaces at a great distance from a collection of charges whose total sum is not zero are approximately: (a) Spheres (b) Planes (c) Paraboloid (d) ellipsoids	1
3.	The magnetic field at the centre of a currentcarrying circular loop of radius R is B_1 . The magneticfield at a point on its axis at a distance R from thecenter of the loop is B_2 . Then the ratio (B_1/B_2) is (a) $2\sqrt{2}$ (b) $1/\sqrt{2}$ (c) $\sqrt{2}$ (d) 2	1
4.	Above Curie temperature, a (A) ferromagnetic material become diamagnetic. (B) ferromagnetic material become paramagnetic. (C) paramagnetic material become ferromagnetic. (D) paramagnetic material become diamagnetic.	1
5.	A square shaped coil of side 10 cm, having 100 turnsis placed perpendicular to a magnetic field which isincreasing at 1 T/s. The induced emf in the coil is: (a) 0.1V (b) 0.5V (c) 0.75V (d) 1.0V	1
6.	In a circuit the phase difference between thealternating current and the source voltage is $\pi/2$. Which of the following cannot be the element(s) ofthe circuit? (a) Only C (b) Only L (c) L and R (d) L or C	1
7.	Electromagnetic waves are transverse in natureis evident by (a) Polarisation (b) Interference (c) Reflection (d) diffraction	1
8.	For a glass prism, the angle of minimum deviation willbe smallest for the light of (a) Red colour (b) Blue colour (c) Yellow colour (d) Green colour	1
9.	Which of the following graphs correctly represents the variation of a particle momentum with itsassociated de-Broglie wavelength? 	1
10.	The diagram shows four energy level of an electron in Bohr model of hydrogen atom. Identify thetransition in which the emitted photon will have thehighest energy: (a) I (b) II (c) III (d) IV 	1
11.	The ratio of nuclear density of nuclei X^{27} to Y^8 is: (a) 3:2 (b) 27:8 (c) 1:1 (d) 2:3	1

	distance between the slits and the screen is 0.8 m and the distance of 2 nd order maximum from the centre of the screen is. 15 mm, calculate the width of the slit.											
20.	If light of wavelength 412.5 nm is incident on each of the metals given in table, which will show photoelectric emission and why? <table border="1"> <thead> <tr> <th>Metal</th> <th>Work Function (eV)</th> </tr> </thead> <tbody> <tr> <td>Na</td> <td>1.92</td> </tr> <tr> <td>K</td> <td>2.15</td> </tr> <tr> <td>Ca</td> <td>3.20</td> </tr> <tr> <td>Mo</td> <td>4.17</td> </tr> </tbody> </table>	Metal	Work Function (eV)	Na	1.92	K	2.15	Ca	3.20	Mo	4.17	2
Metal	Work Function (eV)											
Na	1.92											
K	2.15											
Ca	3.20											
Mo	4.17											
21.	Does any current flow from B to A or vice versa in the figure given below? Explain.	2										
SECTION-C												
22.	A parallel plate capacitor of capacitance C is charged to a potential V by a battery. Without disconnecting the battery, the distance between the plates is tripled and a dielectric medium of K=10 is introduced between the plates of the capacitor. Explain giving reasons, how will the following be affected. (i) Capacitance of the capacitor (ii) Charge of the capacitor (iii) Energy of the capacitor.	3										
23.	A rectangular loop which was initially inside the region of uniform and time independent magnetic field, is pulled out with constant velocity v as shown in the figure. (a) Sketch the variation of magnetic flux, the induced current, and power dissipated as joule heat as function of time. (b) If instead of rectangular loop, circular loop is pulled out: do you expect the same value of induced current? Justify your answer. Sketch the variation of flux in this case with time.	3										
24.	(a) Calculate the value of the resistance R in the circuit shown in the figure so that the current in the circuit is 0.2A. (b) What would be the potential difference between B and E?	3										
25.	(a) Why do we use a shunt to convert a galvanometer into an ammeter? (b) What will be the resistance of ideal ammeter? (c) A galvanometer of resistance 15 Ω shows a full-scale deflection on the meter scale for a current of 6 mA. Calculate the value of the shunt resistance required to convert the galvanometer into an ammeter of range 0 – 6 A.	3										
26.	Write Maxwell's generalization of Ampere's circuital law. Show that in the process of charging a capacitor, the current produced within the plates of the capacitor is $i = \epsilon_0 \frac{d\phi_E}{dt}$. OR Electromagnetic wave with wavelength i) λ_1 is used in satellite communication. ii) λ_2 is used to detect leakage of oil in underground pipelines. iii) λ_3 is used to improve visibility in runways during fog and mist conditions.	3										

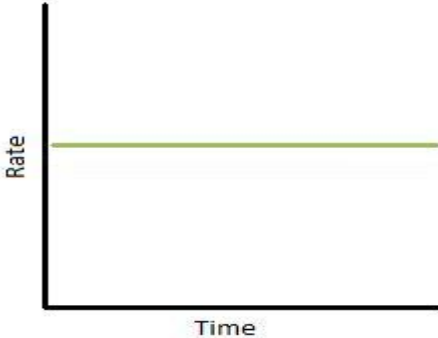
	(a) Identify and name the part of electromagnetic spectrum to which these radiation belong. (b) Arrange these radiation in the ascending order of their wavelengths.	
27.	A 12.3 eV electron beam is used to bombard gaseous hydrogen at room temperature up to which energy level the hydrogen atoms would be excited?	3
28.	(a) Draw a plot showing the variation of potential energy of a pair of nucleons as a function of their separation. Mark the regions where the nuclear force is (i) attractive (ii) repulsive (b) in this nuclear reaction, $n + {}^{235}_{92}\text{U} \rightarrow {}^a_{54}\text{X} + {}^{94}_{b}\text{Sr} + 2n$ Determine the values of a and b.	3
<u>SECTION-D</u>		
29.	Read the following text and answer the following questions on the basis of the same: Sparkling Brilliance of Diamond: The total internal reflection of the light is used in polishing diamonds to create a sparkling brilliance. By polishing the diamond with specific cuts, it is adjusted the most of the light rays approaching the surface are incident with an angle of incidence more than critical angle. Hence, they suffer multiple reflections and ultimately come out of diamond from the top. This gives the diamond sparkling brilliance. (I) Light cannot easily escape a diamond without multiple internal reflections. This is because: (a) its critical angle with reference to air is too large. (b) its critical angle with reference to air is too small. (c) the diamond is transparent. (d) rays always enter at angle greater than critical angle. (II) The critical angle for a diamond is 24.4°. Then its refractive index is: (a) 2.42 (b) 0.413 (c) 1 (d) 1.413 (III) The basic reason for the extraordinary sparkle of suitably cut diamond is that: (a) it has low refractive index. (b) it has high transparency. (c) it has high refractive index. (d) it is very hard. (IV) A diamond is immersed in a liquid with a refractive index greater than water. Then the critical angle for total internal reflection will: (a) depend on the nature of the liquid. (b) decrease. (c) remains the same. (d) increase.	4
30.	A solid has two distinct bands of energies known as valence band and conduction band, let the conduction band energy is E_c and valence band energy is E_v, then the energy band gap between these two bands is $E_g = E_c - E_v$. These two bands have an infinitely large numbers of energy levels which are closely spaced. In valence band, all the energy levels are filled whereas in conduction band, the energy levels may be completely empty or partially filled. (i) In case of conductor, the energy band gap between conduction band and valence band is: (a) zero (b) $< 6\text{eV}$. (c) infinite. (d) 5eV (ii) At absolute zero temperature, the conduction band of a semiconductor is (a) completely filled (b) partially filled (c) completely empty. (d) not related to temperature (iii) Diamond behaves as an insulator because (a) its conduction band is completely filled. (b) the band gap between valence and conduction bands is such that electrons can easily jump from valence to conduction band. (c) the band gap between valence and conduction bands is such that the electrons cannot jump from valence to conduction band. (d) none of the above. (iv) Number of energy levels in conduction and valence bands respectively, are	4

	(a) 15, 17	(b) 12, 17	(c) 17, 12	(d) infinite in both												
	SECTION-E															
31.	(a) Find the potential energy of an electric dipole placed in a uniform electric field. (b) In which orientation, a dipole is placed in a uniform electric field is in (i) stable (ii) unstable equilibrium. (c) An electric dipole with dipole moment $4 \times 10^{-9} \text{ Cm}$ is aligned at 30° with direction of uniform electric field of magnitude $5 \times 10^4 \text{ NC}^{-1}$. Calculate the magnitude of the torque acting on the dipole. OR (a) A dielectric slab of thickness t is introduced between the plates of parallel plate capacitor of area A and separation d (where $t < d$). Find an expression for the capacitance with the dielectric slab. (b) A copper sphere of capacitor C is dropped in ocean. Will the capacitance of the sphere increase, decrease or remain same? Justify. (c) A capacitor is connected across a source of potential difference V and then the separation 'd' between the plates is increased using insulating stick. Plot 'V' vs 'd' graph for the given capacitor.				5											
32	The figure shows the graphical variation of the reactance of a capacitor with frequency of ac source. (A) Use the information on graph to calculate the value of capacity of the capacitor. (B) An inductor of inductance L has the same reactance as the capacitor at 100 Hz. Find the value of L. (C) Using the same axis, draw a graph of reactance against frequency for the inductor given in part (b). (D) If this capacitor and inductor were connected in series to a resistor of 10Ω, what would be the impedance of the combination at 300 Hz?	<table border="1"> <caption>Data points from the Reactance vs Frequency graph</caption> <thead> <tr> <th>Frequency (Hz)</th> <th>Reactance (Ω)</th> </tr> </thead> <tbody> <tr><td>50</td><td>12</td></tr> <tr><td>100</td><td>6</td></tr> <tr><td>200</td><td>3</td></tr> <tr><td>300</td><td>2</td></tr> <tr><td>400</td><td>1.5</td></tr> </tbody> </table>		Frequency (Hz)	Reactance (Ω)	50	12	100	6	200	3	300	2	400	1.5	5
Frequency (Hz)	Reactance (Ω)															
50	12															
100	6															
200	3															
300	2															
400	1.5															
	OR															
	(A) An input potential $V_{in} = 200 \sin 100\pi t \text{ V}$ is provided to an ideal transformer having 1000 turns in primary coil and 100 turns in secondary coil as shown in figure. The load circuit has a resistance of 4Ω, a capacitive reactance of 2Ω and an inductive reactance of 6Ω. Find: (i) the output voltage across the load circuit (ii) the current flowing through the load circuit.															
	(B)(i) What is resonance in LCR circuit. (ii) draw the graph of variation in current and impedance of circuit with respect to frequency.															
33.	(a) Draw a ray diagram to show image formation when the concave mirror produces a real inverted and magnified image of the object. (b) Obtain mirror formula and write the expression for the linear magnification. (c) Explain two advantages of a reflecting telescope over a refracting telescope. OR (a) Describe any two characteristic features which distinguish between interference and diffraction phenomena. Derive the expression for the intensity at a point of the interference pattern Young's double slit experiment. (b) In the diffraction due to single slit experiment the aperture of the slit is 3 mm. If monochromatic light of wavelength 620 nm is incident normally on the slit, calculate the separation between the first order minima and the 3^{rd} order maxima on one side of the screen. The distance between the slit and the screen is 1.5 m.				5											

Kendriya Vidyalaya Sangathan : Ranchi Region**Second Pre - Board Examination (2025-26)****CLASS- XII SUB- CHEMISTRY [043] F.M-70****Max. Marks-70****Time: - 03 HRS****GENERAL INSTRUCTIONS:**

1. The question paper contains 33 questions in this question paper with internal choice.
2. Section-A consists of 16 multiple choice questions carrying 1 mark each.
3. Section-B consists of 5 short answer questions carrying 2 marks each.
4. Section-C consists of 7 short answer questions carrying 3 marks each.
5. Section-D consists of 2 case based questions carrying 4 marks each.
6. Section-E consists of 3 long answer questions carrying 5 marks each.
7. All questions are compulsory.
8. Use of log tables and calculators is not allowed.

SECTION – A		
Q. N.	Question	Marks
1	Which of the following is a polysaccharide? (A) Maltose (B) Glucose (C) Cellulose (D) Sucrose	1
2	A gas 'X' is dissolved in water at 2.5 bar pressure and has mole fraction 0.04 in solution. The mole fraction of 'X' gas when the pressure of gas is doubled at the same T is (A) 0.08 (B) 0.04 (C) 0.100 (D) 1.00	1
3	Nucleic acids are chemically (A) polypeptide (B) polycarbohydrate (C) polynucleotide (D) enzymes	1
4	Which device converts chemical energy of a spontaneous redox reaction into electrical energy? (A) Galvanic cell (B) Electrolytic cell (C) Fuel cell (D) All of these	1
5	For a reaction $P + Q \rightarrow 2R + S$, the incorrect statement is (A) Rate of disappearance of P = Rate of appearance of S (B) Rate of disappearance of Q = 2 x Rate of appearance of R (C) Rate of disappearance of Q = Rate of disappearance of P (D) Rate of disappearance of Q = $\frac{1}{2}$ x Rate of appearance of R	1
6	Out of the following, the strongest base in aqueous solution is (A) Methylamine (B) Dimethylamine	1

	(C) Trimethylamine (D) Aniline	
7	What is the correct order of reactivity of alcohols in the following reactions? $\text{R-OH} + \text{HCl} \xrightarrow{\text{ZnCl}_2} \text{R-Cl} + \text{H}_2\text{O}$ (A) $1^\circ > 2^\circ > 3^\circ$ (B) $1^\circ < 2^\circ > 3^\circ$ (C) $1^\circ < 2^\circ < 3^\circ$ (D) $3^\circ > 1^\circ > 2^\circ$	1
8	Which of the following molecule show optical isomerism? (A) 2- Bromobutane (B) 1- Bromobutane (C) 2- Bromopropane (D) 2-Bromopropan-2-ol	1
9	What is the order of reaction for following graph-  (A) 1 (B) 2 (C) 3 (D) 0	1
10	Why is HCl is not used to make the medium acidic in oxidation reactions of KMnO_4 in acidic medium? (A) Both HCl and KMnO_4 act as oxidising agents. (B) KMnO_4 oxidises HCl into Cl_2 which is also an oxidising agent. (C) KMnO_4 acts as a reducing agent in the presence of HCl. (D) KMnO_4 is a weaker oxidising agent than HCl.	1
11	A complex has a molecular formula $\text{MSO}_4\text{Cl} \cdot 6\text{H}_2\text{O}$. The aqueous solution of it gives white precipitate with Barium chloride solution and no precipitate is obtained when it is treated with silver nitrate solution. If the secondary valency of the metal is six, which one of the following correctly represents the complex? (A) $[\text{M}(\text{H}_2\text{O})_4\text{Cl}] \text{SO}_4 \cdot 2\text{H}_2\text{O}$ (B) $[\text{M}(\text{H}_2\text{O})_6] \text{SO}_4$ (C) $[\text{M}(\text{H}_2\text{O})_5\text{Cl}] \text{SO}_4 \cdot \text{H}_2\text{O}$ (D) $[\text{M}(\text{H}_2\text{O})_3\text{Cl}] \text{SO}_4 \cdot 3\text{H}_2\text{O}$	1

12	The complex ions $[\text{Co}(\text{NH}_3)_5(\text{NO}_2)]^{2+}$ and $[\text{Co}(\text{NH}_3)_5(\text{ONO})]^{2+}$ are called (A) Ionization isomers (B) Linkage isomers (C) Co-ordination isomers (D) Geometrical isomers For Questions number 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. (A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A). (B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A). (C) Assertion (A) is true, but Reason (R) is false. (D) Assertion (A) is false, but Reason (R) is true.	1
13	Assertion (A) : First ionisation enthalpy of Cr is lower than that of Zn. Reason (R) : Zinc is a non-transition element.	1
14	Assertion: Osmosis does not take place in two isotonic solutions separated by semipermeable membrane. Reason : Isotonic solutions have same osmotic pressure	1
15	Assertion (A) : Vitamin C cannot be stored in our body. Reason (R) : Vitamin C is fat soluble and excreted in urine.	1
16	Assertion (A) : Nucleophilic substitution of iodoethane is easier than chloroethane. Reason (R) : Bond enthalpy of C-I bond is less than that of C-Cl bond.	1
SECTION B		
17	A. Write the effect of dilution on the molar conductivity of following electrolyte with proper justification. (a) Acetic acid (b) Sodium acetate (OR) B. A solution of copper sulphate is electrolysed for 10 minutes with a current of 1.5 A. What is the mass of copper deposited at the electrode. [Given $1F = 96500 \text{ C/mole}$ $\text{GAM of copper} = 63 \text{ g}$]	2
18	. $2\text{KClO}_3 \xrightarrow{\text{MnO}_2} 2\text{KCl} + 3\text{O}_2$ Answer the following with proper justification. (a) What is the effect of MnO_2 on rate of reaction. (b) What is the effect of increase in concentration of KClO_3 on rate of reaction.	2

19	Explain giving reasons- (a) The enthalpy of atomisation of the transition metals are high. (b) The highest oxidation state is exhibited in oxoanions of a transition metal.	1+1=2
20	Write the mechanism of acid dehydration of ethanol to yield ethene.	2
21	Write the reaction involved in the following reactions. (a) Hofmann's bromamide reaction (b) Sandmeyer reaction.	1+1=2
SECTION- C		
22	Calculate the emf of the following cell at 25⁰C . $\text{Zn(s)} \text{Zn}^{2+} (0.1 \text{ M}) \text{H}^+ (0.01 \text{ M}) \text{H}_2(\text{g}) (1 \text{ bar}), \text{Pt(s)}$ [Given : $E^0 \text{Zn}^{2+}/\text{Zn} = -0.76 \text{ V}$, $E^0 2\text{H}^+/\text{H}_2 = 0.00 \text{ V}$, $\log 10 = 1$]	3
23	Consider a reaction $\text{A} \longrightarrow \text{B}$ If half-life period for this first order reaction is 2 minutes, how long will it take concentration of A to reach 10% of its initial concentration ?	3
24	Complete the reaction- (a) $\text{Cr}_2\text{O}_7^{2-} + 8\text{H}^+ + 3\text{H}_2\text{S} \longrightarrow$ (b) $\text{KMnO}_4 \xrightarrow{\text{Heat}}$ (c) $\text{MnO}_4^- + \text{H}^+ + \text{C}_2\text{O}_4^{2-} \rightarrow$	3
25	A. Name the reagent used in the following conversions- (a) Oxidation of a primary alcohol to aldehyde. (b) Bromination of phenol to 2,4,6-tribromophenol. (c) Benzyl alcohol to benzoic acid. OR B. How are the following conversions carried out? (a) Ethyl magnesium chloride to propan-1-ol. (b) Propene to propan-1-ol. (c) Phenol to picric acid	3
26	Arrange the following compounds in increasing order of their property as indicated. (a) Ethanal, Propanal, Propanone, Butanone [reactivity towards HCN] (b) Benzoic acid, 4-Nitrobenzoic acid, 3,4-Dinitrobenzoic acid, 4-Methoxybenzoic acid [Acid strength] (c) Ethanal, Ethanol, Methoxy methane, Propane [Boiling point]	3
27	A. Give plausible explanation for each of the following- [1+1] (a) Why are amines less acidic than alcohols of comparable molecular masses?	3

	(b) Why do primary amines have higher boiling point than tertiary amine. B. Give one chemical test to distinguish between ethylamine and aniline. [1]	
28	Give reason- (a) Mercury cell delivers a constant potential during its life time. (b) In the experimental determination of electrolytic conductance, Direct current (DC) is not used. (c) Corrosion is an electrochemical process.	3
SECTION-D		
29	Ribose and 2-deoxyribose have an important role in biology. Among the most important derivatives are those with phosphate groups attached at the 5 position. Mono-, di- and tri-phosphate forms are important, as well as 3-5 cyclic monophosphates. Purines and pyrimidines form an important class of compounds with ribose and deoxyribose. When these purine and pyrimidine derivatives are coupled to a ribose sugar, they are called nucleosides. Answer the following questions : (a) What products would be formed when DNA is hydrolysed ? How is DNA different from RNA with reference to a structure ? (b) Differentiate between nucleotide and nucleoside. (c) Mention two important functions of nucleic acid. OR (c) Name the linkage which joins two nucleotides.	2+1+1
30	Nucleophilic substitution reaction of haloalkane can be conducted according to both S_N1 and S_N2 mechanisms. S_N1 is a two step reaction while S_N2 is a single step reaction. For any haloalkane which mechanisms is followed depends on factors such as structure of haloalkanes, properties of leaving group, nucleophilic reagent and solvent. Influence of Solvent polarity: In S_N1 reaction, the polarity of the systems increases from the reactant to the transition state, because a polar solvent has a greater effect on the transition state than the reactant, thereby reducing activation energy and accelerating the reaction. In S_N2 reaction, the polarity of the system generally does not change from the reactant to the transition state and only charge dispersion occurs. At this time, polar solvent has a greater stabilising effect on Nu than the transition state, thereby increasing activation energy and slow down the reaction rate. For example, the decomposition rate [S_N1] of tertiary chlorobutane at 25°C in water (dielectric constane 79) is 300000 times faster than in ethanol (dielectric constane 24). The reaction rate S_N2 of 2-Bromopropane and NaOH in ethanol containing 40 % water is twice slower than in absolute ethanol. Hence the level of solvent polarity has influence on both S_N1 & S_N2 reaction, but with different results. Generally speaking weak polar solvent is favourable for S_N2 reaction, while stronger polar solvent is favourable for S_N1. Generally speaking the	

	(b) Write structural formulas of four possible aldol condensation products from propanal and ethanal.	2
32	(A) (a) Give reasons : (I) $[\text{Ni}(\text{CO})_4]$ is diamagnetic whereas $[\text{NiCl}_4]^{2-}$ is paramagnetic. [Z : Ni = 28] (II) CO is a stronger complexing agent than NH_3. (III) The trans isomer of complex $[\text{Co}(\text{en})_2\text{Cl}_2]^+$ is optically inactive. (b) Using Crystal Field theory, write the number of unpaired electrons in octahedral complexes of Fe^{3+} in the presence of : (I) Strong field ligand (II) Weak field ligand [Atomic number : Fe = 26] OR (B) (a) Name the type of isomerism exhibited by the following compounds. Also draw their corresponding isomers. (I) $[\text{Co}(\text{NH}_3)_6] [\text{Cr}(\text{CN})_6]$ (II) $[\text{Co}(\text{en})_3]^{3+}$ (III) $[\text{Co}(\text{NH}_3)_3(\text{NO}_2)_3]$ (b) Differentiate between weak field and strong field ligands. How does the strength of the ligand influence the spin of the complex ?	1 1 1 2 1 1 1 2
33	A. Answer the following questions : (a) Give one example of miscible liquid pair which shows negative deviation from Raoult's law. What is the reason for such deviation ? (b) State Raoult's law for a solution containing volatile components. (c) Raoult's law is a special case of Henry's law. Comment. OR	2+1+2 3+2

	(B) (a) An aqueous solution of NaOH was made and its molar mass from the measurement of osmotic pressure at 27°C was found to be 25 g mol⁻¹. Calculate the percentage dissociation of NaOH in this solution. [Atomic mass : Na = 23 u, O = 16 u, H = 1 u] (b) Define the following terms- (i) Mole fraction (ii) Azeotropes	
--	--	--

KENDRIYA VIDYALAYA SANGATHAN
RANCHI REGION
SECOND PREBOARD EXAM-2025-26
CLASS-XII ENGLISH CORE (Code No. 301)

MARKING SCHEME

Time allowed: 3 Hours

Maximum Marks-80

	SECTION-A READING SKILLS (22 Marks)	
1.	Answer the following questions, based on the passage above.	12 Marks
1.	(iii) unauthentic mask	1
2.	(iii) self-respect has stood its ground come what may.	1
3.	The intrinsic worth of a person and self- respect are two sides of the same coin: they give us the ability to discriminate, love and also to remain indifferent. If we lack it, we become incapable of either love or indifference.	2
4.	from which self-respect springs.	1
5.	(ii) paradoxical	1
6.	The writer calls it a gift because self-respect allows us to live a life of authenticity and personal integrity despite whatever anyone else thinks about us. It is the gift we give ourselves when we become less motivated to please others.	2
7.	Fortitude	1
8.	A lack of self - respect is going to pinch us hard eventually only we will suffer for the lack of it.	1
9.	(ii) Only (1)	1
10.	exhibit a certain toughness, a kind of moral nerve.	1
2.	Answer the following questions, based on the passage above.	10 Marks
1.	(b) Languages that are spoken partially and infrequently	1
2.	(c) (II) elaborates the problem described in (I).	1
3.	The writer means to say that when native users of a language hold strong ties to their family that the language gets used frequently. It is only then that fluency of a language develops amongst its users. This leads to the continued use of the language and extends to its life and vitality.	2
4.	(b) Language conservation and preservation are the need of the hour.	1
5.	The writer has drawn parallels between the death of languages and the extinction of a species to suggest that when a language dies, it is similar to an animal of plant species going extinct.	1
6.	Safe	1
7.	A variety of initiatives and programmes have been implemented for the resuscitation and protection of endangered languages. Linguistic professors carry out research to find out the native users of critically	2

	endangered languages, and record the vocabulary and customs associated with it.	
8.	TRUE	1
	SECTION-B CREATIVE WRITING SKILLS (18 Marks)	
3.	A. Notice Writing Format-1 Content-2 Expression-1 Word limit 50 words Suggested value points Title-Tree Plantation drive Day, Date, Time & Venue OR B. Notice Writing Format-1 Content-2 Expression-1 Word limit 50 words Suggested value points Title-Gym Facility / Gym Time Day, Date, Time & Venue	4
4.	A. Invitation Writing Format-1 Content-2 Expression-1 Word limit 50 words Suggested value points Host's name Inauguration of Literary club Day, Date, Time & Venue Host's Address and contact	4

	OR B. Reply to an Invitation Format-1 Content-2 Expression-1 Word limit 50 words Suggested value points Acknowledge the invitation Expressing thanks for invitation Inability to attend due to personal commitment	
5.	A. Letter to Editor Format -1 Content-2 Expression-2 Word limit 120-150 words Suggested value points Poor maintenance of the site Plastics, wrappers scattered Names, messages scribbled on walls, domes Sensitize visitors, Proper maintenance, Feeling pride, proper dispose of wastes etc. OR B. Job Application Format -1 Content-2 Expression-2 Word limit 120-150 words Suggested value points Applying for the post of sales executive Holds qualification and experience for the post Biodata-self profile Educational qualifications, work experience and reference	5

6.	A. Article Writing Format -1 Content-2 Expression-2 Word limit 120-150 words Causes - dumping of industrial waste in water bodies, Improper disposal of e-waste and medical waste, indiscriminate construction work: Solutions - strict laws, role of media print and electronic in spreading awareness. Initiative by N.G.Os. OR B. Report Writing Format -1 Content-2 Expression-2 Word limit 120-150 words Read aloud stimulate listening Gift a book Visit /set up home libraries Set up reading challenges Surround with reading resources books, technology encourage reading everyday menus, instructions, movie reviews, etc.	5
SECTION-C- LITERATURE (40 Marks)		
7.	Read the given extracts and answer the questions for ANY ONE of the two, given below.	1x6=6 Marks
A. 1.	(ii) disappointed and grumpy	1
2.	People travelling in the car are self -centered and have no concern.	1
3.	(ii) happy	1
4.	False	1
5.	These lines refer that the driver was turning his vehicle around in a rush.	1
6.	the city folk simply drive pass the stand without stopping by.	1
B.1.	As bold and fearless	1
2.	Because they live in dense green forests	1
3.	The tigers are described as bright, fearless creatures, moving with elegance and confidence in their green world, unafraid of men and full of chivalric certainty.	1
4.	move about or leap	1
5.	a. (1) is true but (2) is false.	1

6.	Chivalric	1
8.	Read the given extracts and answer the questions for ANY ONE of the two, given below.	1X4=4 Marks
A.1.	Charley had asked for two tickets to old Galesburg in 1894's time. He asked for a pair of tickets for himself and his wife.	1
2.	a. thought it wasn't money.	1
3.	d. an escapist	1
4.	to rob or cheat someone.	1
B.1.	d. fear.	1
2.	he was taken by surprise when he saw Mr. Lamb as he thought it was an empty house.	1
3.	b. Derry could stay with him.	1
4.	a. compassionate man.	1
9.	Read the given extracts and answer the questions for ANY ONE of the two, given below.	1X6=6 Marks
A.1.	It is his last French lesson	1
2.	a. (1) Can be inferred from the extract but (2) cannot.	1
3.	Franz's tone in the line "What a thunderclap these words were to me" can best be described as shocked, overwhelmed, and shaken.	1
4.	b. Items like a stick and grenadier are now variable.	1
5.	German	1
6.	Thunderclap	1
B.1.	the trial was postponed.	1
2.	Gandhi reassured and guided the crowd, showing discipline, while his calm defiance made the officials feel powerless and proved that British authority could be challenged.	1
3.	c. helping to manage the mob of people.	1
4.	uncertainty and need for higher approval.	1
5.	d. confused.	1
6.	The British authorities might.	1
10.	Answer any five of the following six questions in 40 50 words each:	5X2=10 Marks
1.	Suggested Value Points- Peddler's repeated refusals to accompany ironmaster, Peddler's acceptance of Edla's invitation in one go, ironmaster's realization of his mistake, Edla's shows sympathy and generosity. The peddler's theory -whole world is a rattrap. The story teaches, as humans, we are not immune to temptation.	2
2.	Suggested Value Points- Losing her mother either because of her death or separation from her after marriage. It appears her father had passed away during her childhood. She felt the pangs of emotions while leaving her mother alone at a very crucial age when she needed affection and attention from her loved ones.	2

3.	Suggested Value Points- The people in power use the media to assure the country folks that they would be soon pulled out of their poverty. Such big promises turn out to be false as they are never fulfilled.	2
4.	Suggested Value Points- When Geoff told his father about Sophie's meeting with Danny Casey, he expressed disdain and didn't believe. He knew her nature very well. So he warned her to stop making up such stories. It would land her into trouble someday.	2
5.	Suggested Value Points- The job of office boy was not very lucrative He mixed paint in a big vessel and applied on the faces of the players. He was disappointed with his job. He joined the studios to be a star actor or a screenwriter, director or lyrics writer but ended up becoming a 'boy' and remaining only a 'boy'.	2
6.	Suggested Value Points- Umberto Eco was essentially an academician who pursued his scholarly pursuits through academic writings. He wrote about forty non-fiction and as he himself says, 'he became a novelist by accident'. That was the reason he started writing novels at the age of almost fifty.	2
11.	Answer any two of the following three questions in 40 -50 words each:	2X2=4 Marks
1.	Suggested Value Points- Geologists say about 650 million years ago a giant 'amalgamated' supercontinent, Gondwana existed in the South. At that time India and Antarctica were parts of the same landmass. It had a warm climate and a huge variety of flora and fauna. This supercontinent survived for 500 years till the age of mammals got underway.	2
2.	Suggested Value Points- On looking at Derry's face they find it bad and frightful. They think that it is the ugliest thing they have ever seen. They call him a poor boy as one side of his face has been burnt by acid and looks ugly and horrible.	2
3.	Suggested Value Points- The royal astrologer predicted the prince would grow up to be a great fighter, but one day he would die. When ten-day-old Jilani Jung Jung Bahadur heard this, he said that everyone must die someday, and he didn't need a prediction to know this. He asked the astrologer to divulge the method of his death. His unusual request left the wise men baffled.	2
12.	Answer any one of the following two questions, in about 120-150 words.	1X5=5 Marks
A.	Suggested Value Points- Asokamitran clearly uses humour and satire to point out human flaws. He pokes fun on small professional disputes and unimportant disagreements that occupy our minds, but his humour is subtle and not overdone. The way he describes the office boy, Subbu and the legal	5

	advisor is funny in a subtle way. He quickly switches from one topic to another, like making fun of the heavy makeup artists wear that can turn anyone into a strange-looking monster. These references make us laugh. The visits of the moral Rearmament Army and the English poet puzzle everyone in the story. Asokmitran satirizes people who strongly oppose communism. The writer's tone is mocking without being mean -spirited, which is a praiseworthy.	
B.	Suggested Value Points- In 'A Thing of Beauty', John Keats celebrates the enduring and uplifting qualities of nature. It is full of objects and images of beauty that bring peace, joy, and contentment to human life. Beauty in nature- the sun, moon, trees, and flowers, serve as a source of motivation and solace. Beauty of nature nurtures the human spirit, from the struggles and sorrows of life. Nature is admired with its ability to inspire and rejuvenate. In contrast, A Roadside Stand by Robert Frost emphasizes the struggle of rural life against the backdrop of nature. He describes a roadside stand that "pathetically pled" for the attention and money of city dwellers. Rural life is depicted as sinking and withering, with artless paint and marred landscapes symbolizing the hardships of rural poor. Frost contrasts between the two worlds.	5
13.	Answer any one of the following two questions, in about 120-150 words.	1X5=5 Marks
A.	Suggested Value Points- Whatever is our nationality, gender, colour, caste or creed- we are humans first. One should be sensitive for other's suffering as reflected through the character of Dr. Sadao. Even mythology of every religion supports this idea of compassion. Humanity should reflect in our words, deeds and actions. Whether the injured person is our enemy or friend, we should extend a helping hand. Dr. Sadao upholds the ethics of medical profession in treating an enemy. The story is a great lesson of peace, love, sympathy, fellow feeling and humanism. He risks his honour, career, position and life. The author has beautifully portrayed the conflict in the doctor's mind as a private individual and as a citizen with a sense of national loyalty.	5
B.	Suggested Value Points- Both Bama and Zitkala-Sa were victims of discrimination. She suffered from oppression caused due racial discrimination. The native American Red lines were treated badly by those outsiders who had settled in their country. Bama was a contemporary Tamil Dalit writer who experienced the injustice of the caste system as a child. She faced untouchability. Her community was treated as untouchables by the upper caste people. Both the women were insulted and humiliated. They were not treated with respect, dignity and equality. Such inhuman treatment made both the women of different age rebellious.	5

केंद्रीय विद्यालय संगठन, रांची संभाग

पूर्व बोर्ड परीक्षा प्रश्न-पत्र 2025-26

विषय- हिंदी (केंद्रिक)

विषय कोड -302

कक्षा - बारहवीं

निर्धारित समय: 03 घंटे

अधिकतम अंक: 80

सामान्य निर्देश :

- निम्नलिखित निर्देशों को बहुत सावधानी से पढ़िये और उनका पालन कीजिए।
- इस प्रश्न में कुल 11 प्रश्न हैं। सभी प्रश्नों के उत्तर देना अनिवार्य है।
- इसमें कुल 03 खंड हैं- खंड 'अ', खंड 'ब' और खंड 'स'।
- यथासंभव तीनों खंडों के प्रश्नों के उत्तर क्रमशः लिखिये।

खंड - अ

प्रश्न 1	निम्नलिखित गद्यांश को पढ़कर प्रश्नों के उत्तर दीजिए।	10
	बालमन तकनीक के जाल में बुरी तरह उलझ गया है। खेल, सूचनाएँ, अध्ययन से जुड़ी सामग्री, विद्यालयी गतिविधियों की जानकारीयाँ और मित्रता तक सब कुछ बच्चे तकनीकी संसाधनों के माध्यम से ले रहे हैं। तकनीक के सीमित क्षेत्र में मासूम मन ने अपनी एक अलग दुनिया बना ली है। पल-पल अवतरित होती सामग्री बालमन को बहला ही नहीं, भटका भी रही है। हर तरह के रंग लिए इस सामग्री में रमे बच्चों को कोई हिदायत या अभिभावकों की सहज सलाह भी स्वीकार नहीं। इन माध्यमों ने बच्चों की मासूमियत ही नहीं समझ भी छीन ली है। विश्व स्वास्थ्य संगठन ने मोबाइल गेमिंग की लत को एक डिसऑर्डर माना है। इस आभासी व्यस्तता के कारण एकाग्रता के साथ-साथ बच्चों की बाल सुलभ रचनात्मकता भी खो रही है। गेमिंग की लत के कारण शारीरिक गतिविधियाँ घटने से बच्चों को मोटापा, आलस और अनिद्रा की समस्याएँ घेर रही हैं। एम्स के चिकित्सकों के अनुसार हमारे यहाँ 2050 तक लगभग 40 से 45 फीसदी बच्चे मायोपिया का शिकार हो जाएँगे। बच्चों की इस बदलती दुनिया में अभिभावकों का समय रहते चेतना आवश्यक है। बच्चों और बड़ों के बीच नियमित संवाद ज़रूरी है। घर का माहौल बदलना और माता-पिता का भी स्मार्टफोन की चकाचौंध से दूर रहना पहला कदम है। मोबाइल फोन की लत के शिकार बच्चों को धीरे-धीरे संयम के साथ सहज जीवन की ओर मोड़ना होगा। बीते दिनों फ्रांस में स्नायु विज्ञानी, मनोवैज्ञानिक और अन्य विशेषज्ञों की समिति ने अपनी रिपोर्ट में सिफारिश की है कि बच्चों को तेरह वर्ष की आयु तक स्मार्टफोन का प्रयोग नहीं करने देना चाहिए और 18 वर्ष की आयु तक सोशल मीडिया मंचों के प्रयोग पर भी पूरी तरह रोक लगा देनी चाहिए। तकनीक के इस जाल में उलझने से बचाने या उलझने के बाद फिर सहज जीवन से जोड़ने का पहलू हो, दोनों मंचों पर माता-पिता का संयमित और समझ भरा बर्ताव बच्चों का जीवन सहेज सकता है।	

क.	वर्तमान समय में बालमन किसमें उलझा हुआ है? i) खेलकूद के जाल में ii) परीक्षाओं की तैयारी में iii) तकनीक के जाल में iv) आभासी मित्रों के जाल में	1
ख.	निम्नलिखित कथन तथा कारण को ध्यानपूर्वक पढ़िए और उचित विकल्प का चयन कर लिखिए: कथन: आभासी दुनिया में रमे बच्चों को बड़ों की सहज सलाह भी स्वीकार्य नहीं है। कारण: तकनीकी संसाधनों ने बच्चों की मासूमियत के साथ-साथ उनके सोचने समझने की शक्ति को भी प्रभावित किया है। i) कथन तथा कारण दोनों गलत हैं। ii) कारण सही है, किंतु कथन गलत है। iii) कथन सही है, किंतु कारण, कथन की गलत व्याख्या करता है। iv) कथन तथा कारण दोनों सही हैं तथा कारण, कथन की सही व्याख्या करता है।	1
ग.	निम्नलिखित कथनों पर विचार कीजिए- कथन (1.) : तकनीकी सामग्री से बालमन भटक रहा है। कथन (2.) : तकनीकी सामग्री का बच्चों की मासूमियत पर कोई असर नहीं पड़ता। कथन (3.) : तकनीकी सामग्री के कारण बच्चे कुशाग्र बुद्धि बन रहे हैं। कथन (4.) : तकनीकी सामग्री के कारण बच्चों की एक अलग दुनिया बन चुकी है। गद्यांश के अनुसार कौन-सा/से कथन सही हैं ? i) केवल कथन (1), (2) और (3) सही हैं। ii) केवल कथन (2), और (3) सही हैं। iii) केवल कथन (1), (2) और (4) सही हैं। iv) केवल कथन (1), (4) सही हैं।	1
घ.	तकनीकी संसाधनों की महत्ता संबंधी कोई दो बिंदु लिखिए।	1
ड.	मोबाइल गेमिंग का बच्चों पर क्या प्रभाव पड़ रहा है?	2
च.	आभासी दुनिया के दुष्प्रभावों से बच्चों को बचाने के लिए अभिभावकों को क्या-क्या कदम	2
छ.	फ्रांस में विभिन्न विषय विशेषज्ञों की समिति ने आभासी दुनिया से संबंधित रिपोर्ट में कौन-कौन सी सिफारिशें की हैं?	2
प्रश्न 2.	प्रेमयज्ञ अति कठिन, कुण्ड में कौन वीर बलि देगा? तन, मन, धन, सर्वस्व होम कर अतुलनीय यश लेगा? हरि के सम्मुख भी न हार जिसकी निष्ठा ने मानी, धन्य धन्य राधेय! बंधुता के अद्भुत अभिमानी। पर, जाने क्यों, नियम एक अद्भुत जग में चलता है, भोगी सुख भोगता, तपस्वी और अधिक जलता है। हरियाली है जहां, जलद भी उसी खण्ड के वासी,	8

	मरु की भूमि मगर, रह जाती है प्यासी की प्यासी। और, वीर जो किसी प्रतिज्ञा पर आकर अड़ता है, सचमुच, उसके लिए उसे सब कुछ देना पड़ता है। नहीं सदा भीषिका दौड़ती द्वार पाप का पाकर, दुःख भोगता कभी पुण्य को भी मनुष्य अपनाकर। पर, तब भी रेखा प्रकाश की जहां कहीं हँसती है, वहाँ किसी प्रज्वलित वीर नर की आभा बस्ती है। जिसने छोड़ी नहीं लीक विपदाओं से घबरा कर, दी जग को रौशनी टेक पर अपनी जान गंवाकर। नरता का आदर्श तपस्या के भीतर पलता है, देता वही प्रकाश, आग में जो अभीत जलता है। आजीवन झेलते दाह का दंश वीर-व्रतधारी, हो पाते तब कहीं अमरता के पद के अधिकारी। प्रण करना है सहज, कठिन है लेकिन, उसे निभाना, सबसे बड़ी जांच है व्रत का अंतिम मोल चुकाना। अंतिम मूल्य न दिया अगर, तो और मूल्य देना क्या? करने लगे मोह प्राणों का - तो फिर प्रण लेना क्या? सस्ती कीमत पर बिकती रहती जब तक कुर्बानी, तब तक सभी बने रह सकते हैं त्यागी, बलिदानी। पर, महंगी में मोल तपस्या का देना दुष्कर है, हंस कर दे यह मूल्य, न मिलता वह मनुष्य घर घर है।	
क.	प्रेमयज्ञ में अतुलनीय यश किसे प्राप्त होता है? i) जो तन, मन, धन से सर्वस्व बलिदान कर देता है। ii) जो प्रण लेता है। iii) जो सुविधानुसार त्याग कटा है। iv) जो निरंतर प्रेम भरे गीत गाता रहता है।	1
ख.	नरता का आदर्श किसके भीतर पलता है? i) सहिष्णुता के भीतर ii) तत्परता के भीतर iii) तपस्या के भीतर iv) धन के भीतर	1
ग.	निम्नलिखित अभिकथन एवं तर्क पर विचार कीजिए: अभिकथन(A) प्रण करना आसान है किन्तु उसे निभाना बहुत ही कठिन है। तर्क(R): सभी महापुरुष कठिन प्रण करते हैं। नीचे दिए गए कूट की सहायता से सही उत्तर का चयन कीजिए। i) (A) सही है और (R) गलत है।	1

	ii) (A) और (R) दोनों सही हैं। iii) (A) गलत एवं (R) सही है। iv) (A) और (R) दोनों गलत हैं।	
घ	कैसा मनुष्य घर-घर मिलना कठिन है?	1
ङ	'प्रण करना है सहज, कठिन है लेकिन, उसे निभाना' कवि ने ऐसा क्यों कहा है?	2
च.	संसार के किस नियम को कवि ने अद्भुत कहा है?	2
	खंड-ब	
प्रश्न 3	निम्नलिखित में से किसी एक विषय पर रचनात्मक निबंध लिखें।(120 शब्द) (1) बड़े भाई/बहिन की शादी में मेरी भूमिका (2) इलेक्ट्रॉनिक वाहन: समय की माँग (3) स्मार्टफोन के बिना दुनिया	6
प्रश्न 4.	निम्नलिखित प्रश्नों में किन्हीं चार प्रश्नों के लगभग 40 शब्दों में उत्तर दीजिए I. फ्रीलांसर पत्रकार किसे कहते हैं? II. अप्रत्याशित विषयों पर लेखन से क्या तात्पर्य है? III. कहानी का नाट्य रूपांतरण करने में कौन-कौन सी समस्याएँ आती हैं? IV. रेडियो नाटक के लिए कहानी चुनते समय किन-किन बातों का ध्यान रखना आवश्यक है? V. बीट रिपोर्टिंग और विशेषीकृत रिपोर्टिंग में क्या अंतर है? कोई दो लिखिए।	8
प्रश्न 5:	निम्नलिखित प्रश्नों में किन्हीं दो प्रश्नों के लगभग 80 शब्दों में उत्तर दीजिए:- I. रेडियो के लिए समाचार लिखते समय ध्यान रखी जाने वाली कोई चार बातें लिखिए। II. फीचर लिखते समय किन-किन बातों का ध्यान रखना आवश्यक है? कोई चार लिखिए। III. टी.वी. खबरों के कोई चार चरणों के बारे में लिखिए।	8
	खंड-ग	
प्रश्न 6-	निम्नलिखित काव्यांश को ध्यानपूर्वक पढ़कर उस पर आधारित दिए गए प्रश्नों के सर्वाधिक उपयुक्त उत्तर वाले विकल्प चुनकर लिखिए :- प्रातः नभ था बहुत नीला शंख जैसे भोर का नभ राख से लीपा हुआ चौका (अभी गीला पड़ा है) बहुत काली सिल जरा से लाल केसर से कि जैसे घुल गई हो स्लेट पर या लाल खड़िया चाक मल दी हो किसी ने नील जल में या किसी की	5

	गौर झिलमिल देह जैसे हिल रही हो। और... जादू टूटता है इस उषा का अब सूर्योदय हो रहा है।									
क.	चौंके के गीले होने का क्या भावार्थ है? I. नए जीवन का उदय II. वातावरण में नमी III. भोजन के लिए तैयार होना IV. वातावरण में शुष्कता									
ख.	निम्नलिखित कथन (A) तथा कारण (R) को पढ़कर सही विकल्प चुनें । कथन : उषा कविता गाँव की सुबह का गतिशील चित्र है। कारण : कविता में वर्णित उपमान इस कविता को गाँव की सुबह से जोड़ते हैं। I. कथन (A) तथा कारण (R) दोनों गलत हैं । II. कारण (R) सही है लेकिन कथन (A) गलत है । III. कथन (A) तथा कारण दोनों सही हैं लेकिन कारण (R) कथन की गलत व्याख्या करता है। IV. कथन (A) तथा कारण दोनों सही हैं तथा कारण (R) कथन की सही व्याख्या करता है।									
ग.	काव्यांश का वर्ण्य विषय है : I. सूर्योदय के ठीक पहले के पल-पल परिवर्तित प्रकृति का शब्द-चित्रसुख स्थायी हैं । II. सूर्योदय के ठीक बाद के पल-पल परिवर्तित प्रकृति का शब्द-चित्र III. ग्रामीण जीवन में सुबह के समय होने वाली गतिविधियों का शब्द-चित्र IV. स्लेट पर चाक से रंग मलते बच्चों के अदृश्य हाथों का शब्द-चित्र									
घ.	निम्नलिखित को सुमेलित कीजिए:- <table><tr><td>स्तंभ 1</td><td>स्तंभ 2</td></tr><tr><td>काली सिल का लाल केसर से घुला होना</td><td>पवित्रता</td></tr><tr><td>राख से लीपा हुआ चौका</td><td>उज्ज्वलता</td></tr><tr><td>गौर वर्णा युवती की जल में झिलमिलाती देह</td><td>निर्मलता</td></tr></table> I. A-2, B-3, C-1 II. A-2, B-1, C-3 III. A-3, B-2, C-1 IV. A-1, B-3, C-2	स्तंभ 1	स्तंभ 2	काली सिल का लाल केसर से घुला होना	पवित्रता	राख से लीपा हुआ चौका	उज्ज्वलता	गौर वर्णा युवती की जल में झिलमिलाती देह	निर्मलता	
स्तंभ 1	स्तंभ 2									
काली सिल का लाल केसर से घुला होना	पवित्रता									
राख से लीपा हुआ चौका	उज्ज्वलता									
गौर वर्णा युवती की जल में झिलमिलाती देह	निर्मलता									
ङ.	उषा का जादू क्यों टूट जाता है? I. आकाश में बादलों के छा जाने से II. आकाश में सूर्योदय के हो जाने से									

	III. गाँव में होने वाली चहल-पहल से IV. प्रकृति में होने वाले परिवर्तनों से									
प्रश्न 7	निम्नलिखित में किन्हीं दो प्रश्नों के लगभग 60 शब्दों में उत्तर दीजिए:- I. आत्मपरिचय कविता एक ओर जग-जीवन का भार लिए घूमने की बात करती है और दूसरी ओर में कभी न जग का ध्यान किया करता हूँ – विपरीत से लगते इन कथनों का क्या आशय है ? II. जन्म से ही वे अपने साथ लाते हैं कपास— कपास के बारे में सोचें कि कपास से बच्चों का क्या सम्बन्ध बन सकता है? III. कैमरे में बंद अपाहिज करुणा के मुखौटे में छिपी क्रूरता की कविता है— स्पष्ट कीजिए	6								
प्रश्न 8:	निम्नलिखित प्रश्नों में किन्हीं दो प्रश्नों के लगभग 40 शब्दों में उत्तर दीजिए:- I. 'कविता के बहाने' कविता के आधार पर बिन मुरझाए महकने के माने क्या होते हैं? II. 'रोपाई क्षण की, कटाई अनंतता की, लुटते रहने से जरा भी कम नहीं होती' पंक्तियों का भावार्थ स्पष्ट कीजिए। III. 'कवितावली' के उद्धृत छंदों के आधार पर स्पष्ट करें कि तुलसीदास को अपने युग की आर्थिक विषमता की अच्छी समझ है।	4								
प्रश्न- 9:	अधोलिखित गद्यांश को पढ़कर सही विकल्पों में से उत्तर का चयन कीजिए- माँगे हर क्षेत्र में बड़ी-बड़ी हैं पर त्याग का कहीं नाम-निशान नहीं है। अपना स्वार्थ आज एकमात्र लक्ष्य रह गया है। हम चटखारे लेकर इसके या उसके भ्रष्टाचार की बातें करते हैं पर क्या कभी हमने जाँचा है कि अपने स्तर पर अपने दायरे में हम उसी भ्रष्टाचार के अंग तो नहीं बन रहे हैं? काले मेघा दल के दल उमड़ते हैं, पानी झमाझम बरसता है, पर गगरी फूटी की फूटी रह जाती है, बैल पियासे के पियासे रह जाते हैं? आखिर कब बदलेगी यह स्थिति?	5								
क.	निम्नलिखित को सुमेलित कीजिए:- <table><tr><th>स्तंभ 1</th><th>स्तंभ 2</th></tr><tr><td>A. पानी झमाझम बरसता है।</td><td>1.अपार धनराशि प्रेषित की जाती है।</td></tr><tr><td>B. काले मेघा दल के दल उमड़ते हैं।</td><td>2.जन सामान्य की आवश्यकताएँ / स्थिति जस-की-तस रह जाती हैं।</td></tr><tr><td>C.गगरी फूटी रह जाती है, बैल पियासे रह जाते हैं।</td><td>3.सहायता हेतु अनेक कल्याणकारी योजनाएँ बनती हैं।</td></tr></table> I. A-1, B-3, C-2 II. A-1, B-2, C-3 III. A-3, B-1, C-2 IV. A-2, B-1, C-3	स्तंभ 1	स्तंभ 2	A. पानी झमाझम बरसता है।	1.अपार धनराशि प्रेषित की जाती है।	B. काले मेघा दल के दल उमड़ते हैं।	2.जन सामान्य की आवश्यकताएँ / स्थिति जस-की-तस रह जाती हैं।	C.गगरी फूटी रह जाती है, बैल पियासे रह जाते हैं।	3.सहायता हेतु अनेक कल्याणकारी योजनाएँ बनती हैं।	
स्तंभ 1	स्तंभ 2									
A. पानी झमाझम बरसता है।	1.अपार धनराशि प्रेषित की जाती है।									
B. काले मेघा दल के दल उमड़ते हैं।	2.जन सामान्य की आवश्यकताएँ / स्थिति जस-की-तस रह जाती हैं।									
C.गगरी फूटी रह जाती है, बैल पियासे रह जाते हैं।	3.सहायता हेतु अनेक कल्याणकारी योजनाएँ बनती हैं।									

ख	गद्यांश का केंद्रीय भाव है: - देश प्रेम की व्याख्या - भ्रष्टाचार की व्याख्या - वर्षा का वर्णन - स्वार्थ और भ्रष्टाचार के दुष्परिणाम	
ग.	निम्नलिखित कथनों पर विचार करते हुए गद्यांश के अनुसार सही कथन का चयन करें - जब मनुष्य निज स्वार्थ की सोचता है तब वह देश हित के लिए भी कार्य करता है। - जब मनुष्य अपने कर्तव्य से अधिक अधिकार की माँग करता है तब वह त्याग का नाम भी लेता है। - जब मनुष्य समाज में व्याप्त भ्रष्टाचार पर चर्चा करता है तो उसके उन्मूलन के विकल्प भी सोचता है। - जब मनुष्य निज स्वार्थ को सर्वोपरि मानता है तब वह भी भ्रष्टाचार का अंग बन जाता है।	
घ.	गद्यांश में प्रयुक्त 'त्याग' शब्द का समानार्थी शब्द हो सकता है: - त्योरस (III) त्यजन - त्यौनार (IV) त्योहार	
ङ.	"आखिर कब बदलेगी यह स्थिति?" गद्यांश से उद्धृत इस कथन के संदर्भ में लिखिए कि देश की स्थिति कैसे बदलेगी । - अपनी भलाई कर लेने से - मन में विचार कर लेने से - स्वार्थ और भ्रष्टाचार से दूरी बना लेने से - सबको आजीविका प्राप्त होने से	
प्रश्न 10	निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर (60 शब्द प्रत्येक में) दीजिए- - बाजार का जादू चढ़ने और उतरने पर मनुष्य पर क्या-क्या असर पड़ता है? - रिश्तों में हमारी भावना-शक्ति का बँट जाना विश्वासों के जंगल में सत्य की राह खोजती हमारी बुद्धि की शक्ति को कमजोर करती है। पाठ में जीजी के प्रति लेखक की भावना के सन्दर्भ में इस कथन के औचित्य की समीक्षा कीजिए। - महामारी फैलने के बाद के गाँव में सूर्योदय और सूर्यास्त के दृश्य में क्या अंतर होता था? 'पहलवान की ढोलक' पाठ के आधार पर स्पष्ट कीजिए।	6
प्रश्न 11 :	निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर (40 शब्द प्रत्येक में) दीजिए- - हृदय की कोमलता को बचाने के लिए व्यवहार की कठोरता भी कभी-कभी ज़रूरी हो जाती है – 'शिरीष के फूल' पाठ के आधार पर स्पष्ट करें। - जाति प्रथा को श्रम-विभाजन का ही एक रूप न मानने के पीछे बाबा साहेब भीमराव आम्बेडकर ने क्या तर्क दिए हैं? "भक्तिन अच्छी है, यह कहना कठिन होगा, क्योंकि उसमें दुर्गुणों का अभाव नहीं।" लेखिका ने ऐसा क्यों कहा होगा?	4

प्रश्न 12:	निम्नलिखित प्रश्नों में से किन्हीं दो प्रश्नों के लगभग 100 शब्दों में उत्तर दीजिए:- I. वर्तमान समय में परिवार की संरचना, स्वरूप से जुड़े आपके अनुभव 'सिल्वरवैडिंग' कहानी से कहाँ तक सामंजस्य बिठा पाते हैं? लिखिए। II. दत्ता जी राव से पिता पर दबाव डलवाने के लिए लेखक और उसकी माँ को एक झूठ का सहारा लेना पड़ा। यदि झूठ का सहारा न लेना पड़ता तो आगे का घटनाक्रम क्या होता? 'जूझ' कहानी के आधार पर अनुमान लगाते हुए उत्तर लिखें। II. टूटे-फूटे खंडहर, सभ्यता और संस्कृति के इतिहास के साथ-साथ धड़कती जिंदगियों के अनछुए समयों को भी दस्तावेज़ होते हैं- 'अतीत में दबे पाँव' पाठ के आधार पर इस कथन का भाव स्पष्ट कीजिए।	10
-----------------------	---	-----------

KENDRIYA VIDYALAYA SANGATHAN RANCHI REGION
SECOND PRE-BOARD EXAMINATION 2025-26

CLASS XII

TIME ALLOWED: 3 HOURS

General Instructions:

SUBJECT: COMPUTER SCIENCE (083)

MAXIMUM MARKS:70

1. This question paper contains 5 Sections-A, B, C, D and E.
2. Section-A consists of 21 questions (1 to 21) carrying 01 mark each.
3. Section-B consists of 07 questions (22 to 28) carrying 02 marks each.
4. Section-C consists of 03 questions (29 to 31) carrying 03 marks each.
5. Section-D consists of 04 questions (32 to 35) carrying 04 marks each.
6. Section-E consists of 02 questions (36 to 37) carrying 05 marks each.

Q. No	Question	Marks
Section - A		
1	State True or False: “Identifiers are names used to identify a variable, function in a program.”	1
2	Given the lists L= [1,2,3,4,5,20,25,92], write the output of print(L[3:5])	1
3.	How many times is the word “HELLO” printed in the following statement? S='KVS RO Ranchi' for ch in s[3:8] : print(“HELLO”)	1
4.	What will be the output of the following statement? print(10-3**2**2+144/12) a) 59 b) -59 c) -59.0 d) 59.0	1
5.	Suppose list1 is [3, 4, 5, 20, 5, 25, 1, 3], what is list1 after list1.pop(1)? a) [3, 4, 5, 20, 5, 25, 1, 3] b) [1,3,3, 4, 5, 20, 5, 25] c) [3, 5, 20, 5, 25, 1, 3] d) [1, 3, 4, 5, 20, 5, 25,]	1
6	Which of the following expressions evaluates to False? a) True and (not)False b) True or False c) not (False and True) d) False and not (False)	1
7	What will be the output of the following code? tup1 = (10, 20, 30) tup2 = tup1 tup1 +=(40,) print(tup1 == tup2) a) True b) False c) tup1 d) Error	1
8	Which of the following operators will return either True or False? a) += b) != c) = d) *=	1
9	Select the correct output of the code: S="Viksit Bharat @ 47" a=S.partition(“ “) print(a) a) ('Viksit Bharat','@','47') b) ['Biksit','Bharat','@','47'] c) ('Viksit','Bharat @ 47') d) ('Viksit', ' ', 'Bharat @ 47')	1
10.	Which one is incorrect ways to copy a dictionary in Python a)dict2 = dict1.copy() b)dict2 = dict(dict1) c)dict2 = dict1 d)dict2 =copy(dict1)	1
11.	State whether the following statement is True or False: The except block in Python is executed only if no exception occurs in the try block.	1
12.	Write the output of the following code def show(a,b): print(a,b) show(4,b=5)	1
13.	Which SQL command can change the cardinality of an existing relation? a) Insert b) Delete c) Both a) & b) d) Drop	1

14.	Which protocol is used to send emails over the Internet? a) HTTP b) SMTP c) FTP d) PPP	1
15.	Which of the following Cable provides highest speed transmission? a) Optical Fibre b) Co-axial c) Twisted Pair d) None of the above	1
16.	Which of the following networking device is used to regenerate and transmit the weakened signal ahead? a) Hub b) Ethernet Card c) Repeater d) Modem	1
17	The syntax of seek() is : file_object.seek(offset [,reference_point]) What is the default value of reference_point? a) 0 b) 1 c) 2 d) 3	1
18	Which of the following is a DDL command? a) SELECT b) ALTER c) INSERT d) UPDATE	1
19	What will be the output of the query? SELECT * FROM student WHERE name LIKE 'R%'; a) Display all the Details of all students whose names start with 'R' b) Display all the Details of all students whose names end with 'R' c) Display only Names of all students whose names start with 'R' d) Display only Names of all students whose names end with 'R'	1
	Q20 and Q21 are Assertion(A) and Reason(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): SQL is a language which provide the facility to handle database. Reasoning (R): For handling the database SQL provide a Set of commands	1
21.	Assertion (A): A SELECT command in SQL can have multiple clauses. Reasoning (R): Delete command is used to remove the table from database	1
Section - B		
22.	Explain the difference between mutable and immutable object in Python with example	2
23.	What is dynamic typing? Explain with example. OR Explain String Slicing with example	2
24.	Find the output: for a in range(1,4): if a%2==0: break print(a) else: print("Ending Loop")	2
25.	Find the output: d={1:'a',2:'e',3:'I'} print(d[1]) print(d.keys()) print(d.values()) print(d[3])	2
26.	Nidhi is assigned the task of maintaining the staff data of an organization. She has to store the details of the staff in the SQL table named EMPLOYEES with attributes as EMPNO, NAME, DEPARTMENT, BASICSAL to store Employee's identification Number, Name, Department and Basic Salary respectively. There can be two or more Employees with the same name in the organization. A. (i) Help Nidhi to identify the attribute which should be designated as the Primary Key. Justify your answer. (ii) Write the SQL command to change the size of the attribute BASICSAL in the table EMPLOYEES to allow the maximum value of 99999.99 to be stored in it. OR B. (i) Help Nidhi to identify the constraint which should be applied to the attribute NAME such that the Employee's Names can not be left empty or NULL while entering the records but can have duplicate values. (ii) write the SQL command to delete the table EMPLOYEES	2

27.	A. Write suitable commands to do the following in MySQL. I. View the table structure. II. Create a database named SQP. OR B. Differentiate between drop and delete command in SQL with a suitable example.	2
28.	A. Define the following terms: I. Modem II. Gateway OR B. I. Expand the following terms: HTML and SMTP II. Differentiate between Web server and web browser.	2
Section - C		
29.	Sample.txt file contains the following content: This is my file Made glorious summer by this sun of York And all the clouds that lour'd upon our house In the deep bosom of the ocean buried Find the output of the given code with open("sample.txt", "r") as file: lines = file.readlines() print("File Content:") for line in lines: print(line) print("\nNumber of lines:", len(lines)) OR Find the output of the given code using above file with open("sample.txt", "r") as file: for i in range(3): line = file.readline() if line: print(line) else: break	3
30.	A. Write a function in Python PUSH_ODD(Arr), where Arr is a list of numbers. From this list, push all odd numbers into a stack implemented by using a list. OR B. Write a function in Python POP_STACK(Arr), where Arr is a stack implemented by a list of numbers. The function should pop two values from the stack if possible and return them. If not enough elements are present in the stack, display an appropriate error message	3
31.	Write the full forms of DDL and DML. Explain any two commands of DML in SQL with example.	3
Section - D		
32.	A. Explain exception handling in Python. What are try, except, and finally blocks? Provide an example. OR B. What will be the output of the following program? (i) <pre>x,y,a=5,0,None print("a") try: print("b") a=x/y print("c") except: print("d") print("e") print(a)</pre>	4

	<pre>(ii) N='5' try: print('WORD'+N, end='#') except: print('ERROR', end='#') finally: print('OVER')</pre>																																	
33.	<table><tr><th>EmpID</th><th>EmpName</th><th>Salary</th><th>Department</th></tr><tr><td>101</td><td>Aarav Sharma</td><td>50000</td><td>HR</td></tr><tr><td>102</td><td>Priya Singh</td><td>60000</td><td>Finance</td></tr><tr><td>103</td><td>Rohan Patel</td><td>55000</td><td>HR</td></tr><tr><td>104</td><td>Neha Gupta</td><td>70000</td><td>IT</td></tr><tr><td>105</td><td>Vikram Mehta</td><td>65000</td><td>Finance</td></tr><tr><td>106</td><td>Sneha Desai</td><td>75000</td><td>IT</td></tr><tr><td>107</td><td>Arjun Verma</td><td>80000</td><td>HR</td></tr></table> Using the above table write the output of the following query 1. SELECT EmpName, Salary FROM Employees WHERE Salary >= (SELECT DISTINCT Salary FROM Employees ORDER BY Salary DESC) 2. SELECT Department, sum(Salary) count(*) FROM Employees 3. SELECT EmpName, Salary FROM Employees WHERE Department ='IT' 4. SELECT EmpName, Salary FROM Employees WHERE Salary > (SELECT AVG(Salary) FROM Employees)	EmpID	EmpName	Salary	Department	101	Aarav Sharma	50000	HR	102	Priya Singh	60000	Finance	103	Rohan Patel	55000	HR	104	Neha Gupta	70000	IT	105	Vikram Mehta	65000	Finance	106	Sneha Desai	75000	IT	107	Arjun Verma	80000	HR	4
EmpID	EmpName	Salary	Department																															
101	Aarav Sharma	50000	HR																															
102	Priya Singh	60000	Finance																															
103	Rohan Patel	55000	HR																															
104	Neha Gupta	70000	IT																															
105	Vikram Mehta	65000	Finance																															
106	Sneha Desai	75000	IT																															
107	Arjun Verma	80000	HR																															
34.	Write the output of the following code with justification if the contents of the file ABC.txt are: <pre>Welcome to Python Programming! f1 = file("ABC.txt", "r") size = len(f1.read()) print(size) data = f1.read(5) print(data)</pre>	4																																
35.	Write the following missing statements to complete the code for Statement1, Statement2, Statement3 and Statement4 : <pre>import mysql.connector as mydb mycon = mydb._____ #Statement 1 (host = "localhost",user = "root", passwd = "system",database = "Admin") cursor = _____ #Statement 2 sql = "SELECT * FROM student WHERE class=XII" cursor._____ #Statement 3 display = cursor._____ # Statement 4 for i in display: print(i) mycon.close ()</pre>	4																																

36.	Planoteria is a knowledge and skill community which has an aim to uplift the standard of knowledge and skills in the society. It is planning to set-up its training centers in multiple towns and villages in India with its head offices in the nearest cities. They have created a model of their network with a city, a town and 3 villages as follows. As a network consultant, you have to suggest the best network related solutions for their issues/problems raised in (i) to (v) keeping in mind the distances between various locations and other given parameters. A-HUB Head Office B-HUB Village - 3 Village - 2 B Town Village - 1 Distance between different locations <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr><td>Village – 1 to B_Town</td><td>2 KM</td></tr> <tr><td>Village – 2 to B_Town</td><td>1 KM</td></tr> <tr><td>Village – 3 to B_Town</td><td>1.5 KM</td></tr> <tr><td>Village – 1 Village –2</td><td>3.5 KM</td></tr> <tr><td>Village –1 Village –3</td><td>4.5 KM</td></tr> <tr><td>Village –2 Village –3</td><td>2.5 KM</td></tr> <tr><td>A_CITY Head Office – B_Hub</td><td>25 KM</td></tr> </table> Number of computers <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr><td>B_Town</td><td>120PC</td></tr> <tr><td>Village – 1</td><td>15PC</td></tr> <tr><td>Village – 2</td><td>10PC</td></tr> <tr><td>Village – 3</td><td>15PC</td></tr> <tr><td>A_CITY Head Office</td><td>6PC</td></tr> </table> NOTE: In Villages, there are community centers, in which one room has been given as training center to this organization to install computers. The organization has got financial support from the government and top IT companies. (i) Suggest the most appropriate location of the SERVER in the B_HUB (out of the 4 locations), to get the best and effective connectivity. Justify your answer. (ii) Suggest the best wired medium and draw the cable layout (location to location) to efficiently connect various location within the B_HUB. (iii) Which hardware device will you suggest to connect all the computers within each location of B_HUB? (iv) Which service/protocol will be most helpful to conduct live interactions of Experts from Head Office and people at all locations of B_HUB? (v) Which hardware device will you suggest to be procured by the company to be installed to protect and control the Internet uses within the campus?	Village – 1 to B_Town	2 KM	Village – 2 to B_Town	1 KM	Village – 3 to B_Town	1.5 KM	Village – 1 Village –2	3.5 KM	Village –1 Village –3	4.5 KM	Village –2 Village –3	2.5 KM	A_CITY Head Office – B_Hub	25 KM	B_Town	120PC	Village – 1	15PC	Village – 2	10PC	Village – 3	15PC	A_CITY Head Office	6PC	5
Village – 1 to B_Town	2 KM																									
Village – 2 to B_Town	1 KM																									
Village – 3 to B_Town	1.5 KM																									
Village – 1 Village –2	3.5 KM																									
Village –1 Village –3	4.5 KM																									
Village –2 Village –3	2.5 KM																									
A_CITY Head Office – B_Hub	25 KM																									
B_Town	120PC																									
Village – 1	15PC																									
Village – 2	10PC																									
Village – 3	15PC																									
A_CITY Head Office	6PC																									
37.	A. Ranjeet wants to write a program in Python to copy the contents of file1.dat to file2.dat. Help him to complete the code in Statement1, Statement2 and Statement3. <pre>import pickle def copy_binary_file(source, dest): with open(source, '____') as src_file: #Statement1 data = pickle.____(src_file) #Statement2 with open(dest,'wb') as dest_file: pickle.____(data, dest_file) #Statement3 print("Copied from",source,"to",dest, successfully.") source_file = 'file1.dat' dest_file = 'file2.dat' copy_binary_file(source_file, dest_file)</pre> B.Explain the difference between text files and binary files. Why might you choose to use binary files over text files for certain applications?	3+2																								

केन्द्रीय विद्यालय संगठन, रांची संभाग
Kendriya Vidyalaya Sangathan: Ranchi Region

द्वितीय प्री-बोर्ड परीक्षा / 2nd Pre-Board Examination
सत्र SESSION : 2025-26

कक्षा/Class – XII
(845)

विषय/Subject : शारीरिक गतिविधि प्रशिक्षक

Physical Activity Trainer (845)

पूर्णांक/Max. Marks: 50

निर्धारित समय/Max. Time: 2 Hours

General Instructions:

1. Please read the instruction carefully.
2. This Question Paper consists of 21 questions in two sections: Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. **Out of the given (5 + 16 =) 21 questions, a candidate has to answer (5 + 10 =) 15 questions in the allotted (maximum) time of 2 hours.**
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A – OBJECTIVE TYPE QUESTIONS (24 MARKS):**
 - i. This section has 05 questions.
 - ii. Marks allotted are mentioned against each question / part.
 - iii. There is no negative marking.
 - iv. Do as per the instructions given.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (26 MARKS):**
 - i. This section has 16 questions.
 - ii. A candidate has to do 10 questions.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question / part.

सामान्य निर्देश:

1. कृपया निर्देशों को ध्यान से पढ़ें।
2. इस प्रश्नपत्र में कुल 21 प्रश्न हैं, जो दो भागों में बँटे हैं: Section A और Section B।
3. Section A में वस्तुनिष्ठ (Objective) प्रकार के प्रश्न हैं और Section B में वर्णनात्मक (Subjective) प्रश्न हैं।
4. कुल (5 + 16 =) 21 प्रश्नों में से विद्यार्थी को (5 + 10 =) 15 प्रश्नों के उत्तर देने हैं।
5. एक ही Section के सभी प्रश्न क्रम से हल करें।
6. **खंड A - वस्तुनिष्ठ प्रकार के प्रश्न (24 अंक)**
 - i इस भाग में 05 प्रश्न हैं।
 - ii प्रत्येक प्रश्न के सामने दिए अनुसार अंक मिलेंगे।
 - iii कोई नकारात्मक अंकन (Negative Marking) नहीं है।

iv दिए गए निर्देशों के अनुसार हल करें।

7. खंड बी - व्यक्तिपरक प्रकार के प्रश्न (26 अंक)

- इस भाग में 16 प्रश्न हैं।
- विद्यार्थी को इनमें से 10 प्रश्न हल करने हैं।
- निर्देशों के अनुसार उत्तर दें।
- प्रत्येक प्रश्न के अंक उसके सामने दिए गए हैं।

SECTION A – OBJECTIVE TYPE QUESTIONS

Q. 1	Answer any 4 out of given 6 questions on Employability Skills (1 X 4 = 4 marks) नीचे दिए गए 6 प्रश्नों में से किसी भी 4 का उत्तर दें	
i.	A positive attitude helps in — A. Creating conflicts at workplace B. Reducing efficiency C. Achieving goals and maintaining good relations D. Ignoring responsibilities सकारात्मक दृष्टि कोण किसमें सहायता करता है - A. कार्य स्थल पर विवाद पैदा करना B. दक्षता कम करना C. लक्ष्य प्राप्त करना और अच्छे संबंध बनाए रखना D. जिम्मेदारियों की अनदेखी करना	1
ii.	The tone of voice is part of — A. Written communication B. Non-verbal communication C. Verbal communication D. Both verbal and non-verbal communication आवाज़ की टोन किसका हिस्सा होती है - A. लिखित संचार B. गैर-मौखिक संचार C. मौखिक संचार D. मौखिक और गैर-मौखिक दोनों संचार	1
iii.	Which of these is an example of system software? A. MS Excel B. Tally C. Operating system D. Photoshop इनमें से कौन सिस्टम सॉफ्टवेयर का उदाहरण है? A. एम एस एक्सेल B. टैली C. ऑपरेटिंग सिस्टम D. फोटोशॉप	1
iv.	'C' in the acronym OCPD stands for _____ A. consciousness B. communication C. courteous D. compulsive OCPD संक्षिप्त नाम में 'C' का अर्थ है - A. जागरूकता B. संचार C. विनम्र D. जबरदस्ती करने वाला	1
v.	There is garbage bin in your canteen and it generally gets filled beyond capacity every day. What should you do? A. Ask the canteen management to get a bigger bin B. suggest ways to reduce the amount of garbage collected C. throw garbage on the floor and walk away D. talk to your friends about the problem a) A, B, D b) A, B c) A, C, D d) A, D आपके कैंटीन में एक कूड़ादान है जो रोज़ाना अधिक मात्रा में भर जाता है। आपको क्या करना चाहिए?	1

	A. कैंटीन प्रबंधन से बड़ा कूड़ादान मंगाने को कहें B. कूड़े की मात्रा कम करने के उपाय सुझाएं C. कूड़ा फर्श पर फेंक दें और चले जाएं D. इस समस्या के बारे में अपने दोस्तों से बात करें a) A, B, D b) A, B c) A, C, D d) A, D	
vi.	We can use SMART method to set goals. In the term 'SMART', 'M' stands for _____ A. Marketable B. Measurable C. Memorable D. Manageable SMART विधि का उपयोग लक्ष्य निर्धारित करने के लिए किया जाता है। इस शब्द में 'M' का अर्थ है - A. बाजार योग्य B. मापन योग्य C. यादगार D. प्रबंधनीय	1

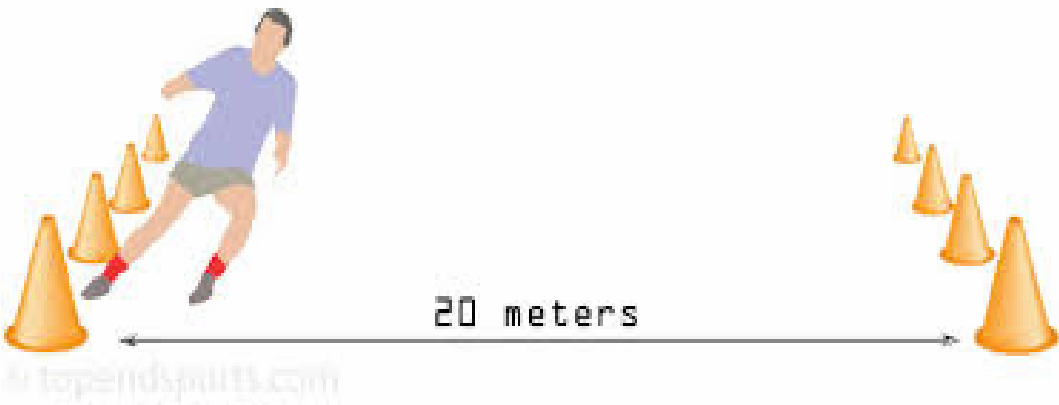
Q. 2	Answer any 5 out of given 6 questions (1 X 5 = 5 marks) नीचे दिए गए 6 प्रश्नों में से किसी भी 5 का उत्तर दें	
i.	One of the main duties of the sports equipment manager is: A. Guiding the principal to select vice principal. B. Stocking, organising, maintaining and monitoring equipment C. Maintenance of teacher's attendance register. D. None of the above खेल उपकरण प्रबंधक का मुख्य कर्तव्य कौन-सा है? A. प्रधानाचार्य को उप-प्रधानाचार्य चुनने में मार्गदर्शन देना B. उपकरणों का स्टॉकिंग, आयोजन, रखरखाव और निगरानी C. शिक्षकों की उपस्थिति रजिस्टर का रखरखाव D. उपरोक्त में से कोई नहीं	1
ii.	For which of the following, physical activity is/are not planned in advance? A. Structured play B. For both structured and unstructured play C. Unstructured play D. Tournament निम्नलिखित में से किनके लिए शारीरिक क्रियाएँ पूर्व नियोजित नहीं होती हैं? A. संरचित खेल B. संरचित और असंरचित दोनों खेल C. असंरचित खेल D. टूर्नामेंट	1
iii.	Match the following: a) Abdominal strength b) Flexibility c) Lower body strength A. V- sit test - Plank test - Vertical jump test B. Plank test - V-sit test - Vertical jump test C. Sit ups - Curl up - Toe touch D. Sit & reach test - Toe touch - Push ups निम्नलिखित मिलाइए: a) पेट की ताकत b) लचीलापन c) निचले शरीर की ताकत A. V-सीट टेस्ट, प्लैंक टेस्ट, वर्टिकल जंप टेस्ट B. प्लैंक टेस्ट, V-सीट टेस्ट, वर्टिकल जंप टेस्ट	1

	C. सिट अप्स, कर्ल अप, टो टच D. सिट और रीच टेस्ट, टो टच, पुश अप्स	
iv.	Exercises prescribed by the Doctor for deformity or injury correction are known as : A. Traditional exercise B. Corrective and rehabilitative exercise C. Recreational activities D. Adventurous activity डॉक्टर द्वारा विकृति या चोट सुधार के लिए निर्धारित व्यायाम कहलाते हैं: A. पारंपरिक व्यायाम B. सुधारात्मक और पुनर्वास व्यायाम C. मनोरंजक गतिविधियां D. साहसिक गतिविधि	1
v.	_____ are structured activity or contest with rules and has amateurism. A. Sports B. Games C. Play D. Recreational activity _____ नियमों के साथ संरचित गतिविधि या प्रतियोगिता होती है जिसमें शौकिया स्तर होता है। A. खेल B. गेम्स C. खेलना D. मनोरंजक गतिविधि	1
vi.	_____ refers to the maximum oxygen consumption by your body during intense exercise. A. Aerobic capacity B. endurance C. VO2 Max D. Stamina _____ अत्यधिक व्यायाम के दौरान आपके शरीर द्वारा अधिकतम ऑक्सीजन उपभोग को दर्शाता है। A. एरोबिक क्षमता B. सहनशक्ति C. VO2 मैक्स D. स्टैमिना	1

Q. 3 Answer any 5 out of given 6 questions (1 X 5 = 5 marks)

नीचे दिए गए 6 प्रश्नों में से किसी भी 5 का उत्तर दें

i.	_____ is the systematic basis for making interferences about the learning and deciding the next steps for enhancement of that learning. A. Evaluation B. Assessment C. Competency D. Collecting information _____ सीखने का मूल्यांकन करने और अगला कदम तय करने का एक व्यवस्थित आधार है। A. मूल्यांकन B. आकलन C. क्षमता D. जानकारी एकत्र करना	1
ii.	Which among the following rubric is NOT the part of skill assessment with A3 point grading scale? A. Proficient B. Very good C. Developing D. Needs development निम्नलिखित में से कौन सा स्کیل आकलन के A3 पॉइंट ग्रेडिंग स्केल का भाग नहीं है? A. दक्ष B. बहुत अच्छा C. विकासशील D. विकास की जरूरत	1
iii.	Which of the following physical factors influence the assessment? A. Age, Physical disabilities and General health B. Chronic absenteeism C. Mental and psychological problems D. Knowledge and Management skills of teacher कौन से शारीरिक कारक आकलन को प्रभावित करते हैं? A. आयु, शारीरिक अक्षमता और सामान्य स्वास्थ्य B. दीर्घकालिक अनुपस्थिति C. मानसिक और मनोवैज्ञानिक समस्याएं D. शिक्षक का ज्ञान और प्रबंधन कौशल	1
iv.	Select the correct number of compressions given in per minute in case of cardiac arrest. A. 90 – 100 B. 100 – 110 C. 100 – 120 D. 110 – 120 हृदयाघात के मामले में प्रति मिनट सही संख्या में कॉम्प्रेसन चुनें।	1

	A. 90—100 B. 100—110 C. 100—120 D. 110--120	
v.	Identify the given diagram of a test: चित्रित परीक्षण का नाम बताएं:  A. Harvard step test B. Beep test C. Walk or run test D. Standing long jump test A. हार्वर्ड स्टेप टेस्ट B. बीप टेस्ट C. वॉक या रन टेस्ट D. स्टैंडिंग लॉन्ग जंप टेस्ट	1
vi.	Physical health refers to: A. One's quality of life B. One's bodily well-being C. One's mental state D. One's social status शारीरिक स्वास्थ्य का अर्थ है: A. जीवन की गुणवत्ता B. शारीरिक कुशलता C. मानसिक स्थिति D. सामाजिक स्थिति	1

Q. 4	Answer any 5 out of given 6 questions (1 X 5 = 5 marks) नीचे दिए गए 6 प्रश्नों में से किसी भी 5 का उत्तर दें	
i.	When are low frequency inspections typically performed? A. Hourly B. Quarterly or semi-annually C. Daily D. Yearly कम आवृत्ति जांच कब की जाती है? A. प्रति घंटा B. त्रैमासिक या अर्धवार्षिक C. दैनिक D. वार्षिक	1
ii	For teacher observation which of the following tool is used? A. Rubrics B. Discussing with other teachers C. Discussing with parents D. None of the above शिक्षक पर्यवेक्षण के लिए किस उपकरण का उपयोग होता है? A. रूब्रिक्स B. अन्य शिक्षकों से चर्चा C. माता-पिता से चर्चा D. उपरोक्त में से कोई नहीं	1
iii.	Which of the following statement is true in respect of Parent – Teacher Meeting? A. Parent – Teacher Meeting held between the school academic staff and parents. B. Parent – Teacher Meeting held between the principal and the students C. Parent – Teacher Meeting is the only way to raise the funds for school. D. Parent – Teacher Meeting must be organised twice in a month. माता-पिता-शिक्षक बैठक के संबंध में निम्नलिखित में से कौन सा बयान सही है?	1

	A. यह बैठक शैक्षिक कर्मचारियों और अभिभावकों के बीच होती है। B. यह बैठक प्रधानाचार्य और छात्रों के बीच होती है। C. यह बैठक स्कूल के फंड जुटाने का एकमात्र तरीका है। D. यह बैठक महीने में दो बार आयोजित की जानी चाहिए।	
iv.	Sprain is a sports injury that occurs while participation in physical activity. Identify the nature of sprain from the following: A. An injury to blood vessel. B. An injury to ligament involving tear of its fibres. C. A twist, pull or tear of muscle or tendon. D. A bone fracture due to excessive force. मोच एक खेल चोट है जो शारीरिक गतिविधि के दौरान होती है। मोच की प्रकृति बताएं। A. रक्त वाहिका को चोट लगना B. लिगामेंट की फाइबर का फटना C. मांसपेशी या टेंडन का मुड़ना, खिंचना या फटना D. अत्यधिक बल के कारण हड्डी का फ्रैक्चर	1
v.	Choose the formula to calculate the Body Mass Index (BMI). A. Weight (in kg)/Height² (in meter) B. Height² (in meter)/ Weight (in kg) C. Weight (in kg)/Height (in meter) D. Height² (in meter)/ Weight² (in kg) बॉडी मास इंडेक्स (BMI) की गणना का सूत्र चुनें। A. वजन (किलो में) / ऊंचाई² (मीटर में) B. ऊंचाई² (मीटर में) / वजन (किलो में) C. वजन (किलो में) / ऊंचाई (मीटर में) D. ऊंचाई² (मीटर में) / वजन² (किलो में)	1
vi.	Which of the following programmes lays emphasis on instructional aspects? A. Intramural programme C. Extramural programme B. Service programme D. Fitness and recreation निम्नलिखित में से कौन सा कार्यक्रम शिक्षण पहलुओं पर जोर देता है? A. आंतरिक कार्यक्रम B. सेवा कार्यक्रम C. बाह्य कार्यक्रम D. फिटनेस और मनोरंजन	1

	रेखा एक शारीरिक गतिविधि सुविधा प्रदाता है। वह बच्चों से 600 मीटर दौड़ या चलने को कह रही है। वह किस कौशल से संबंधित घटक को विकसित कर रही है? A. एरोबिक क्षमता B. सहनशक्ति C. गति D. लचीलापन	
ii.	Which of the following is not required to develop a customised emergency action plan at school? A. Critical training and equipment B. Systematic approach to address medical and environmental emergencies C. Lifesaving security emergencies. D. Repeated assessment and mobilisation of people. स्कूल में कस्टमाइज्ड आपातकालीन कार्य योजना विकसित करने के लिए निम्नलिखित में से किसकी आवश्यकता नहीं होती? A. महत्वपूर्ण प्रशिक्षण और उपकरण B. चिकित्सकीय और पर्यावरणीय आपात स्थितियों से निपटने के लिए व्यवस्थित दृष्टिकोण C. जीवनरक्षक सुरक्षा आपात स्थितियां D. बार-बार मूल्यांकन और लोगों की तैनाती	1
iii.	What is the first step in equipment care? A. Wash with soap B. inspect for damage C. Spray perfume D. Lock it in a box उपकरण देखभाल का पहला चरण क्या है? A. साबुन से धोना B. क्षति के लिए निरीक्षण C. इत्र छिड़कना D. इसे बॉक्स में लॉक करना	1
iv.	What is the primary reason for conducting regular inspections of playground equipment? A. To ensure the equipment is used regularly B. To prevent injuries and maintain hygiene C. To organize more games D. To make the area more attractive खेल का मैदान उपकरण की नियमित जांच का मुख्य कारण क्या है? a) सुनिश्चित करना कि उपकरण नियमित उपयोग में हों b) चोटों को रोकना और स्वच्छता बनाए रखना c) अधिक खेलों का आयोजन करना d) क्षेत्र को अधिक आकर्षक बनाना	1
v.	A student participating in the 400-metre race faints after crossing the finish line. The student's skin feels hot and dry, and he is breathing rapidly. What should be the immediate first aid step? A. Lay the player down with head slightly elevated B. Move the student to a shaded or cool area and remove excess clothing.	1

	C. Call for medical assistance. D. Encourage regular hydration and avoid scheduling events during peak heat hours. 400 मीटर दौड़ में भाग ले रहा छात्र फिटिंग करता है। छात्र की त्वचा गरम और सूखी है, और वह तेजी से सांस ले रहा है। तत्काल प्राथमिक उपचार कदम क्या होना चाहिए? A. खिलाड़ी को थोड़े ऊपर उठे सिर के साथ लेटना B. छात्र को छायादार या ठंडी जगह पर ले जाना और अतिरिक्त कपड़े हटाना C. चिकित्सा सहायता बुलाना D. नियमित जल सेवन प्रोत्साहित करना और उच्च तापमान के दौरान कार्यक्रमों से बचना																					
vi.	Match Column I with the correct item from Column II. <table><tr><th>Column I</th><th>Column II</th></tr><tr><td>1. Checklist</td><td>i. Quantitative tool, e.g. number of correct repetitions in fitness test</td></tr><tr><td>2. Fitness Test</td><td>ii. Qualitative tool; yes/no or tick-off structure</td></tr><tr><td>3. Self-reflection</td><td>iii. Allows student to think about own strengths & weakness</td></tr><tr><td>4. Written Exam</td><td>iv. Multiple choice, true/false etc.</td></tr></table> (Objective Questions) A. ii, i, iii, iv B. i, ii, iii, iv C. ii, iii, iv, i D. iii, ii, i, iv कॉलम I को कॉलम II के सही आइटम से मिलाएं: <table><tr><th>कॉलम I</th><th>कॉलम II</th></tr><tr><td>1. चेकलिस्ट</td><td>i. मात्रात्मक उपकरण, जैसे फिटनेस टेस्ट में सही रिपिटिशन की संख्या</td></tr><tr><td>2. फिटनेस टेस्ट</td><td>ii. गुणात्मक उपकरण; हाँ/ना या टिक-ऑफ संरचना</td></tr><tr><td>3. स्व-प्रतिबिंब</td><td>iii. छात्र को अपनी ताकत और कमजोरी के बारे में सोचने की अनुमति देता है</td></tr><tr><td>4. लिखित परीक्षा (वस्तुनिष्ठ प्रश्न)</td><td>iv. बहुविकल्पी, सही/गलत आदि</td></tr></table> A. ii, i, iii, iv B. i, ii, iii, iv C. ii, iii, iv, i D. iii, ii, i, iv	Column I	Column II	1. Checklist	i. Quantitative tool, e.g. number of correct repetitions in fitness test	2. Fitness Test	ii. Qualitative tool; yes/no or tick-off structure	3. Self-reflection	iii. Allows student to think about own strengths & weakness	4. Written Exam	iv. Multiple choice, true/false etc.	कॉलम I	कॉलम II	1. चेकलिस्ट	i. मात्रात्मक उपकरण, जैसे फिटनेस टेस्ट में सही रिपिटिशन की संख्या	2. फिटनेस टेस्ट	ii. गुणात्मक उपकरण; हाँ/ना या टिक-ऑफ संरचना	3. स्व-प्रतिबिंब	iii. छात्र को अपनी ताकत और कमजोरी के बारे में सोचने की अनुमति देता है	4. लिखित परीक्षा (वस्तुनिष्ठ प्रश्न)	iv. बहुविकल्पी, सही/गलत आदि	1
Column I	Column II																					
1. Checklist	i. Quantitative tool, e.g. number of correct repetitions in fitness test																					
2. Fitness Test	ii. Qualitative tool; yes/no or tick-off structure																					
3. Self-reflection	iii. Allows student to think about own strengths & weakness																					
4. Written Exam	iv. Multiple choice, true/false etc.																					
कॉलम I	कॉलम II																					
1. चेकलिस्ट	i. मात्रात्मक उपकरण, जैसे फिटनेस टेस्ट में सही रिपिटिशन की संख्या																					
2. फिटनेस टेस्ट	ii. गुणात्मक उपकरण; हाँ/ना या टिक-ऑफ संरचना																					
3. स्व-प्रतिबिंब	iii. छात्र को अपनी ताकत और कमजोरी के बारे में सोचने की अनुमति देता है																					
4. लिखित परीक्षा (वस्तुनिष्ठ प्रश्न)	iv. बहुविकल्पी, सही/गलत आदि																					

SECTION B – SUBJECTIVE TYPE QUESTIONS

व्यक्तिपरक प्रकार के प्रश्न

Answer any 3 out of the given 5 questions on Employability Skills (2 X 3 = 6 marks)

Answer each question in 20-30 words.

नीचे दिए गए 5 में से किसी भी 3 प्रश्नों के उत्तर दें. (प्रत्येक उत्तर 20-30 शब्दों में लिखें)

Q. 6	Mention about the benefits of green jobs. हरित नौकरियों के लाभ बताएं।	2
Q. 7	What are the ways by which aspiring entrepreneurs can identify new business	2

	opportunities and evaluate their potential and risks? नए व्यावसायिक अवसरों की पहचान और उनके संभावित जोखिमों का मूल्यांकन कैसे करें?	
Q. 8	There are five dimensions also called “The Big Five Factors” of individual’s personality. Differentiate between ‘Agreeableness’ and ‘Neuroticism’. व्यक्ति के व्यक्तित्व के पांच आयाम जिन्हें "द बिग फाइव फैक्टर्स" भी कहा जाता है, में 'एग्रीएबिलिटी' और 'न्यूरोटिसिज्म' के बीच अंतर बताएं।	2
Q. 9	What is the full form of CPU? What is its function? CPU का पूर्ण रूप क्या है? इसका कार्य क्या है?	2
Q. 10	Mention two practices that promote environmental conservation. पर्यावरण संरक्षण को बढ़ावा देने वाले दो अभ्यास बताएं।	2

Answer any 4 out of the given 6 questions in 20-30 words each (2 X 4 = 8 marks)

नीचे दिए गए 6 में से किसी भी 4 प्रश्नों के उत्तर दें , (प्रत्येक उत्तर 20-30 शब्दों में लिखें)

Q. 11	Why is feedback important in the assessment process? मूल्यांकन प्रक्रिया में प्रतिक्रिया महत्वपूर्ण क्यों है?	2
Q. 12	What are low frequency inspections? कम आवृत्ति निरीक्षण क्या हैं?	2
Q. 13	Elucidate any two differences between assessment and evaluation. आकलन और मूल्यांकन के बीच दो अंतर स्पष्ट करें।	2
Q. 14	What safety measures should be followed before conducting a contact sport (e.g., football or kabaddi)? किसी संपर्क खेल (जैसे फुटबाल या कबड्डी) को संचालित करने से पहले सुरक्षा उपाय क्या होने चाहिए?	2
Q. 15	Differentiate between the terms games and sports. 'खेल' और 'गेम्स' शब्दों में क्या अंतर है?	2
Q. 16	What do you mean by checklist as an assessment tool?	2

	आकलन उपकरण के रूप में चेकलिस्ट का अर्थ क्या है?	
--	---	--

Answer any 3 out of the given 5 questions in 50-80 words each (4 X 3 = 12 marks)

नीचे दिए गए 5 में से किसी भी 3 प्रश्नों के उत्तर दें , (प्रत्येक उत्तर 50-80 शब्दों में लिखें)

Q. 17	“Communication plays a crucial role in handling emergencies.” — Justify this statement with examples from school sports settings. "संचार आपातकालीन स्थितियों को संभालने में महत्वपूर्ण भूमिका निभाता है।" --- स्कूल खेल सेटिंग्स के उदाहरणों के साथ इस कथन को सही ठहराएं।	4
Q. 18	Elaborate on the role of feedback and reflection in improving the assessment outcomes. आकलन परिणामों में सुधार के लिए प्रतिक्रिया और प्रतिबिंब की भूमिका पर विस्तार से चर्चा करें।	4
Q. 19	During the annual sports meet, it is observed that the playground is littered with disposable bottles, food wrappers, and dirty bibs. Many players are reluctant to warm up on the ground due to poor hygiene. As the Physical Activity Trainer, list five steps you would take to restore hygiene in the play area. वार्षिक खेल आयोजन के दौरान खेल का मैदान कचरे से भरा होता है। कई खिलाड़ी मैदान पर गर्म होने से कतराते हैं। एक शारीरिक गतिविधि प्रशिक्षक के रूप में खेल क्षेत्र में स्वच्छता बहाल करने के लिए पांच कदम बताएं।	4
Q. 20	During a football match, a player suddenly collapses after a head collision. The crowd gathers, and panic spreads. You are the Physical Activity Trainer (PAT) on duty. Explain the Primary Survey (DRABC) method used to assess the athlete's condition. फुटबाल मैच के दौरान एक खिलाड़ी अचानक सिर की चोट के बाद गिर जाता है। भीड़ जमा हो जाती है, और अफरा-तफरी फैल जाती है। इयूटी पर मौजूद शारीरिक गतिविधि प्रशिक्षक के रूप में खिलाड़ी की स्थिति का आकलन करने के लिए प्राथमिक सर्वेक्षण (DRABC) विधि समझाएं।	4
Q. 21	Briefly explain co-ordination and balance ability. समन्वय और संतुलन क्षमता का संक्षिप्त वर्णन करें।	4

KENDRIYA VIDYALAYA SANGATHAN (RANCHI REGION)
FIRST PRE-BOARD EXAMINATION-2025-26
MATHEMATICS -XII (041)

Maximum Marks: 80

Time:3 hours

General Instructions:

Read the following instructions very carefully and strictly follow them:

1. This Question paper contains 38 questions. All questions are compulsory.
2. This Question paper is divided into five Sections-A, B, C, D and E.
3. In Section A, Questions no. 1 to 18 are multiple choice questions (MCQs) with only one correct option and Questions no. 19 and 20 are Assertion-Reason based questions of 1 mark each.
4. In Section B, Questions no.21 to 25 are Very Short Answer (VSA)-type questions, carrying 2 marks each.
5. In Section C, Questions no. 26 to 31 are Short Answer (SA)-type questions, carrying 3 marks each.
6. In Section D, Questions no. 32 to 35 are Long Answer (LA)-type questions, carrying 5 marks each.
7. In Section E, Questions no. 36 to 38 are Case study-based questions, carrying 4 marks each.
8. 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.
9. Use of calculator is not allowed.

SECTION-A		
This section comprises of multiple choice questions (MCQs) of 1 mark each. Select the correct option (Question1-Question18)		
Q.N.	Questions	Marks
1	The principal value of $\sin^{-1} \left[\sin \frac{3\pi}{5} \right]$ (a) $\frac{3\pi}{5}$ (b) $\frac{2\pi}{5}$ (c) $\frac{\pi}{5}$ (d) $\frac{4\pi}{5}$	1
2	If A_{ij} is the cofactor of the elements a_{ij} of the determinant $\begin{vmatrix} 2 & -3 & 5 \\ 6 & 0 & 4 \\ 1 & 5 & -7 \end{vmatrix}$ then the value of a_{32} A_{32} is (a) -110 (b) 0 (c) -22 (d) 110	1
3	If A is a square matrix such that $A^2=A$, then the value of $7A - (I+A)^3$ is , where I is an identity matrix (a) -I (b) I (c) A (d) A - I	1
4	If A is matrix of order $m \times n$ and B is a matrix such that AB' and $B'A$ are both defined, then order of matrix B is (a) $m \times m$ (b) $n \times n$ (c) $n \times m$ (d) $m \times n$	1
5	Given that A is a square matrix of order 3 and $ A = -2$, then $ \text{adj}(2A) $ is equal to (a) -2^6 (b) $+4$ (c) -2^8 (d) 2^8	1
6	Given a square matrix A of order 3×3 , such that $ A = 12$, then the value of $ A \cdot \text{adj } A $ is (a) 1728 (b) 144 (c) 12 (d) none of these	1
7	If $f(x)$ is continuous at $x=3$ and $f(x) = \begin{cases} \frac{(x+3)^2 - 36}{x-3}, & x \neq 3 \\ k, & x = 3 \end{cases}$ then the value of k is (a) 3 (b) 12 (c) 9 (d) 6	1

8	If $x=t^2$ and $y=t^3$, then $\frac{dy}{dx}$ is equal to ----- (a) $\frac{2t}{3}$ (b) $2t$ (c) $3t$ (d) $\frac{3t}{2}$	1
9	If the rate of change of volume of a sphere is equal to the rate of change of radius, then its radius is equal to (a) 1 unit (b) $\sqrt{2\pi}$ units (c) $\frac{1}{\sqrt{2\pi}}$ units (d) $\frac{1}{2\sqrt{\pi}}$ units	1
10	Given $\int e^x(\tan x + 1)\sec x dx = e^x f(x) + c$, then $f(x)$ is (a) $\tan x$ (b) $\sec x$ (c) $\sec x \tan x$ (d) none of these	1
11	$\int 2^{x+2} dx$ is equal to (a) $2^{x+2} + C$ (b) $2^{x+2} \log 2 + C$ (c) $\frac{2^{x+2}}{\log 2} + C$ (d) $2 \cdot \frac{2^x}{\log 2} + C$	1
12	The integrating factor of differential equation $\cos x \frac{dy}{dx} + y \sin x = 1$, is: (a) $\cos x$ (b) $\tan x$ (c) $\sec x$ (d) $\sin x$	1
13	If $\vec{a}$ and $\vec{b}$ are such that $ \vec{a} \cdot \vec{b} = \vec{a} \times \vec{b} $, then the angle between $\vec{a}$ and $\vec{b}$ is ----- (a) $\frac{\pi}{6}$ (b) $\frac{\pi}{3}$ (c) $\frac{\pi}{4}$ (d) $\frac{\pi}{2}$	1
14	If a line makes angle $\frac{\pi}{3}$ and $\frac{\pi}{4}$ with x-axis and y-axis respectively, then the angle (acute angle) made by the line with z-axis is : (a) $\frac{\pi}{2}$ (b) $\frac{\pi}{3}$ (c) $\frac{\pi}{4}$ (d) $\frac{15\pi}{12}$	1
15	If the point P (a, b, 0) lies on the line $\frac{x+1}{2} = \frac{y+2}{3} = \frac{z+3}{4}$, then (a, b) is (a) (1, 2) (b) $(\frac{1}{2}, \frac{1}{4})$ (c) $(\frac{1}{2}, \frac{2}{3})$ (d) (0, 0)	1
16	The objective function $Z = ax + by$ of an LPP has maximum value 42 at (4, 6) and minimum value 19 at (3, 2). Which of the following is true? (a) $a = 9, b = 1$ (b) $a = 9, b = 2$ (c) $a = 3, b = 5$ (d) $a = 5, b = 3$	1
17	The corner points of the feasible region determined by the system of linear constraints are (0,10), (5,5), (15,15), (0,20). Let $Z = px + qy$, where $p, q > 0$. Condition on p and q so that the maximum of Z occurs at both the points (15,15) and (0,20) is (a) $P = q$ (b) $p = 2q$ (c) $q = 2p$ (d) $q = 3p$	1
18	If A and B are two independent events such that $P(A) = \frac{1}{2}$, $P(B) = p$ and $P(A \cup B) = \frac{3}{5}$, then the value of p is (a) $\frac{1}{5}$ (b) $\frac{2}{5}$ (c) $\frac{3}{5}$ (d) $\frac{4}{5}$	1
	ASSERTION-REASON BASED QUESTIONS (Question numbers 19 and 20 are Assertion-Reason based questions carrying 1 mark each. Two statements are given, one labeled Assertion(A) and the other labeled Reason (R). Select the correct answer from the options (A), (B), (C) and (D) as given below. (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	
19	Assertion (A): Range of $\cot^{-1}x$ is $(0, \pi)$ Reason (R): Domain of $\tan^{-1}x$ is $\mathbf{R}_+$.	1
20	Assertion (A): $\vec{a} = \hat{i} + p\hat{j} + 2\hat{k}$, $\vec{b} = 2\hat{i} + 3\hat{j} + q\hat{k}$ are parallel vectors if $p=3/2, q=4$ Reason (R): If $\vec{a} = a\hat{i} + b\hat{j} + c\hat{k}$, $\vec{b} = d\hat{i} + e\hat{j} + f\hat{k}$ are parallel if $a/d = b/e = c/f$	1

SECTION B																				
This section comprises of 5 very short answer (VSA) type questions of 2 marks each.																				
21	Find the principal value of $\tan^{-1}(\sqrt{3}) - \sec^{-1}(-2)$. OR Find the value of $\sin^{-1}\left[\sin\left(\frac{13\pi}{7}\right)\right]$	2																		
22	Find $f'(x)$ if $f(x) = (\sin x)^{\sin x}$, for all $0 < x < \pi$	2																		
23	Write the derivative of $\sin x$ with respect to $\cos x$.	2																		
24	Find $\int \frac{dx}{9x^2+6x+5}$	2																		
25	Find a vector in the direction of $\vec{a} = \hat{i} - 2\hat{j}$ that has magnitude 7 units. OR Write a unit vector in the direction of vector $\vec{PQ}$ where $\vec{P}$ and $\vec{Q}$ are the points (1, 3,0) and (4,5,6) respectively.	2																		
SECTION C																				
This section comprises of 6 short answer (SA) type questions of 3 marks each.																				
26	If the $f(x)$ given by $f(x) = \begin{cases} 3ax + b, & \text{if } x > 1 \\ 11, & \text{if } x = 1 \\ 5ax - 2b, & \text{if } x < 1 \end{cases}$ is continuous at $x = 1$, Find the values of a and b . OR If $y = \sqrt{\frac{1-x}{1+x}}$, prove that $(1 - x^2)\frac{dy}{dx} + y = 0$.	3																		
27	Find the intervals in which the function f given by $f(x) = \sin x + \cos x$, $0 \leq x \leq 2\pi$ is strictly increasing or strictly decreasing.	3																		
28	Find the area lying in the first quadrant and bounded by the circle $x^2 + y^2 = 4$ and the lines $x = 0$ and $x = 2$.	3																		
29	Find the equation of the line passing through the point (-1, 2, 1) and parallel to the line $\frac{2x-1}{4} = \frac{3y+5}{2} = \frac{z-2}{3}$.	3																		
30	Solve the following linear programming problem graphically. Minimize $Z = 3x + 9y$ Subject to $x + 3y \leq 60$, $x + y \geq 10$, $x \leq y$, $x, y \geq 0$ OR Solve the following Linear Programming Problem graphically: Minimize $z = 6x + 3y$ subject to $4x + y \geq 80$, $x + 5y \geq 115$, $3x + 2y \leq 150$, $x \geq 0$, $y \geq 0$	3																		
31	A couple has two children. Find the probability that both the children are girls, if it is known that the older child is a girl. (OR) A random variable X has the following probability distribution, determine k . <table><tr><td>X</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td>P(X)</td><td>0</td><td>k</td><td>2k</td><td>2k</td><td>3k</td><td>k²</td><td>2k²</td><td>7k² + k</td></tr></table>	X	0	1	2	3	4	5	6	7	P(X)	0	k	2k	2k	3k	k ²	2k ²	7k ² + k	3
X	0	1	2	3	4	5	6	7												
P(X)	0	k	2k	2k	3k	k ²	2k ²	7k ² + k												

SECTION D		
This section comprises of 4 long answer (LA) type questions of 5 marks each		
32	Find the product of matrices $\begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix}$ and $\begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$ with the help of it, solve the following system of linear equations: $\begin{aligned} x - y + z &= 4 \\ x - 2y - 2z &= 9 \\ 2x + y + 3z &= 1 \end{aligned}$	5
33	Prove that $\int_a^b f(x) dx = \int_a^b f(a+b-x) dx$ and hence evaluate $\int_{\pi/6}^{\pi/3} \frac{dx}{1 + \sqrt{\tan x}}$ OR Find: $\int \frac{\sin 2x}{(\sin^2 x + 1)(\sin^2 x + 3)} dx$.	5
34	Find the particular solution of the differential equation $\frac{dy}{dx} = \frac{xy}{x^2 + y^2}$ given that $y = 1$ when $x = 0$	5
35	Find the shortest distance between the lines whose equations are $\vec{r}_1 = \hat{i} + \hat{j} + \lambda(2\hat{i} - \hat{j} + \hat{k})$ and $\vec{r}_2 = 2\hat{i} + \hat{j} - \hat{k} + \mu(3\hat{i} - 5\hat{j} + 2\hat{k})$ OR Find the vector equation of the line passing through the point (1, 2, -4) and perpendicular to the two lines $\frac{x-8}{3} = \frac{y+19}{-16} = \frac{z-10}{7}$ and $\frac{x-15}{3} = \frac{y-29}{8} = \frac{z-5}{-5}$	5
SECTION- E		
This section comprises of 3 case-study/passage-based questions of 4 marks each with subparts. The first two case study questions have three subparts (i), (ii), (iii) of marks 1, 1, 2 respectively. The third case study question has two subparts of 2 marks each.		
36	Case Study -1 - Priya (P) and Surya(S) are playing monopoly in their house during COVID. While rolling the dice their mother Chandrika noted the possible outcomes of the throw every time belongs to the set $\{1, 2, 3, 4, 5, 6\}$. Let A denote the set of players and B be the set of all possible outcomes. Then $A = \{P, S\}$ $B = \{1, 2, 3, 4, 5, 6\}$ Then answer the below questions based on the given information:  (i) Let $R: B \rightarrow B$ be defined by $R = \{(a, b) \text{ both } a \text{ and } b \text{ are either odd or even}\}$. Is R an equivalence relation? Justify. (ii) Chandrika wants to know the number of functions from A to B. How many numbers of functions are possible? (iii) Let R be a relation on B defined by $R = \{(1, 2), (2, 2), (1, 3), (3, 4), (3, 1), (4, 3), (5, 5)\}$. State if R is reflexive symmetric or transitive? OR Chandrika wants to know the number of relations from A to B. How many numbers of relations are possible?	1 1 2

37	Case Study -2 -Siddharth, the owner of a sweet selling shop, purchased some rectangular card board sheets of dimension 25 cm by 40 cm to make container packets without top. Let x cm be the length of the side of the square to be cut out from each corner to give that sheet the shape of the container by folding up the flaps. Based on the above information answer the following questions. (i) Express the volume (V) of each container as function of x only. (ii) Find dV/dx. (iii) For what value of x, the volume of each container is maximum? OR Check whether V has a point of inflection at $x = 63/5$ or not?	1 1 2
38	Case Study -3-Read the following passage and answer the questions given below. A coach is training 3 players. He observes that the player A can hit a target 4 times in 5 shots, player B can hit 3 times in 4 shots and the player C can hit 2 times in 3 shots (i) What is the probability that ‘none of them will hit the target?’ (ii) What is the probability that exact two of them will hit the target	2 2

Kendriya Vidyalaya Sangathan: Ranchi Region Second Pre-Board Examination (2025-26) Class XII		
Subject- Accountancy (055)		
Max. Marks- 80 Marks		Time- 3 Hours
	General Instructions: 1. This question paper contains 34 questions. All questions are compulsory. 2. This question paper is divided into two parts, Part A and Part B. 3. Both Parts are compulsory for all candidates. 4. Questions 1 to 16 and 27 to 30 carry 1 mark each. 5. Questions 17 to 20, 31, and 32 carry 3 marks each. 6. Questions 21, 22, and 33 carry 4 marks each. 7. Questions 23 to 26 and 34 carry 6 marks each. 8. There is no overall choice. However, an internal choice has been provided in: 7 questions of one mark, 2 questions of three marks, 1 question of four marks and 2 questions of six marks.	
	Part A – Accounting for Partnership Firms and Companies	
1.	Tia, Pia, and Sia are partners sharing profits equally. Tia drew regularly ₹2,000 in the beginning of each month for six months ended 30th September, 2024. Calculate interest on Tia's drawings @ 5% p.a. (a) ₹100 (c) ₹175 (b) ₹600 (d) ₹350 OR With context to debit side of partner's current account, pick the odd one out. (a) Drawings (c) Salary (b) Interest on Drawings (d) None of these	1
2.	Ashish and Avnish are partners sharing profits in the ratio of 10 : 2. Ankit is admitted, and the new profit-sharing ratio is 10: 6 : 4. On the date of admission, the general reserve appears in the books at ₹48,000. Avnish's share in the reserve will be: (a) ₹8,000 (b) ₹40,000 (c) ₹14,400 (d) None of these OR Sonu and Monu are partners sharing profits and losses in the ratio of 3 : 2. Tonu is admitted for 1/5th share in profits of the firm which he gets entirely from Sonu. Find out the new profit-sharing ratio. (a) 12 : 8 : 5 (b) 8 : 5 : 5 (c) 2 : 2 : 1 (d) 2 : 2 : 2	1
3.	On the retirement of a partner, reserve should be transferred to the capital account of: (a) Remaining partners (c) All the partners (b) Retiring partner (d) None of these OR X, Y, and Z are partners in a partnership firm. Y retires. General reserves appeared at that time ₹25,000 and deferred revenue expenditure ₹7,000. Partners do not want to disturb the reserves and deferred revenue expenditure. By what amount Y will be credited? (a) ₹6,000 (b) ₹8,333 (c) ₹5,000 (d) ₹6,500	1

4.	X, Y, and Z are partners in a firm sharing profits and losses in the ratio of 5 : 3 : 2. As per partnership deed, Z is to get a minimum amount of ₹1,000 as profit. Net profit for the year is ₹4,000. Calculate deficiency (if any) to Z. (a) ₹75 (b) ₹200 (c) ₹150 (d) None of these	1
5.	A, B, and C are partners sharing profits in the ratio of 5 : 3 : 2. They have admitted Z into partnership for 1/6th share. Investment Fluctuation Fund appears in the balance sheet at ₹13,500, and investment is valued at ₹1,50,000. If the market value of investment is ₹1,45,000, the amount of investment fluctuation fund that will be shown in new balance sheet will be : (a) Nil (b) ₹13,500 (c) ₹5,000 (d) ₹6,500	1
6.	Balance of share forfeiture account is shown in the balance sheet under the head (A) Share Capital Account (B) Reserve and Surplus (C) Current Liabilities and Provisions (D) Unsecured Loans OR On an equity share of ₹10 the company has called up ₹8 but ₹6 have been received by the company, is forfeited, the capital account should be debited by: (A) ₹10 (B) ₹8 (C) ₹6 (D) ₹2	1
7.	If a share of ₹10 issued at a premium of ₹3 on which the full amount has been called and ₹8 (including premium) paid is forfeited, the capital account should be debited with: (A) ₹5 (B) ₹8 (C) ₹10 (D) ₹13	1
8.	Total capital employed in the firm is ₹4,00,000, reasonable rate of return is 15%, and profit for the year is ₹6,00,000. The value of goodwill of the firm as per capitalization method would be: (a) ₹41,00,000 (b) ₹6,00,000 (c) ₹36,00,000 (d) ₹21,00,000	1
9.	Assertion (A): If A, B, C and D are partners, D's son will automatically become the new partner in case of D's death. Reason (R): D's son will become the new partner only if majority of the remaining partners agree to admit him into partnership. In the context of the above two statements, which of the following is correct? Codes: (A) Both (A) and (R) are correct and (R) is the correct reason of (A). (B) Both (A) and (R) are correct but (R) is not the correct reason of (A). (C) Only (R) is correct. (D) Both (A) and (R) are wrong.	1

10.	At the time of change in profit-sharing ratio, workmen compensation reserve existing in the balance sheet against which no liabilities exist, is transferred to capital account of partners in their ——— (a) Old profit-sharing ratio (b) New profit-sharing ratio (c) Sacrificing ratio (d) Gaining ratio	1
11.	If Vendors are issued debentures of ₹4,40,000 in consideration of assets of ₹5,00,000 and liabilities of ₹1,00,000, the balance of ₹40,000 will be debited to: (A) General Reserve Account (B) Capital Reserve Account (C) Goodwill Account (D) Statement of Profit & Loss	1
12.	On dissolution of a firm, a partner's capital account has a credit balance of ₹42,000. His share of profit in realisation account is ₹9,000. He has paid firm's realisation expenses ₹3,000. He will finally get a payment of: (A) ₹39,000 (B) ₹42,000 (C) ₹54,000 (D) ₹48,000	1
13.	Globe Ltd. issued 20,000, 9% debentures of ₹100 each at a discount of 5% redeemable at the end of 5 years at a premium of 6%. For what amount 'Loss on Issue of Debentures Account' will be debited? (A) ₹1,00,000 (B) ₹1,20,000 (C) ₹2,80,000 (D) ₹2,20,000	1
14.	If total assets of a firm are ₹12,00,000 and total liabilities are ₹2,40,000, what will be the capitals of P, Q and R if they share profits in the ratio of their capitals and profit sharing ratio is 1 : 2 : 3? (A) P ₹4,80,000; Q ₹3,20,000; R ₹1,60,000 (B) P ₹1,60,000; Q ₹3,20,000; R ₹4,80,000 (C) P ₹2,00,000; Q ₹4,00,000; R ₹6,00,000 (D) P ₹6,00,000; Q ₹4,00,000; R ₹2,00,000	1
15.	Issued 5,000, 12% debentures of ₹100 each at a discount of 2%, redeemable at a premium of 5%. In such case: (A) Loss on Issue will be credited by ₹10,000. (B) Loss on Issue will be debited by ₹35,000. (C) Premium on Redemption will be debited by ₹25,000. (D) Premium on Redemption will be credited by ₹35,000.	1
16.	On dissolution of firm, which item is debited to the realisation account? (A) Realisation expenses paid by partner (B) Balance of reserve fund (C) Amount of unrecorded asset (D) Creditor's balance shown in the Balance Sheet OR At the time of dissolution of a firm, Creditors are ₹70,000; Partners' capital is ₹1,20,000; Cash Balance is ₹10,000. Other assets realised ₹1,50,000. Profit/Loss in the realisation account will be:	1

	(A) ₹60,000 (Loss) (B) ₹80,000 (Profit) (C) ₹40,000 (Loss) (D) ₹30,000 (Loss)	
17.	Mita, Gopal and Farhan were partners sharing profits and losses in the ratio of 3 : 2 : 1. On 31st March, 2024, they decided to change the profit sharing ratio to 5 : 3 : 2. On this date, the Balance Sheet showed the following: Contingency Reserve ₹ 9,000 Workmen Compensation Reserve ₹ 60,000 A claim on account of workmen compensation of ₹ 60,000 was ascertained. Goodwill was valued at ₹ 4,80,000. Pass the necessary journal entries for the above transactions in the books of the firm on its reconstitution.	3
18.	P, Q and R are partners in a firm sharing profits and losses in the ratio of 2 : 1 : 2. Their fixed capitals were ₹3,00,000; ₹1,00,000 and ₹2,00,000 respectively. Interest on capital for the year ended 31st March, 2023 was credited to them @ 9% p.a. instead of @12% p.a. The profit for the year before charging interest was ₹2,50,000. Prepare necessary adjustment entry.	3
19.	Give journal entries for the issue of debentures : Issued 2,000, 12% debentures of ₹100 each at par but redeemable at 5% premium. OR Star Ltd. took over the following assets and liabilities of Versha Ltd.: Land and Building at ₹60,00,000 (Book Value ₹35,00,000); Plant and Machinery of ₹30,00,000 at ₹25,00,000; and Liabilities of ₹3,00,000. Purchase consideration was ₹78,00,000. Payment was made by an acceptance of ₹15,00,000 in favour of Versha Ltd. payable after 3 months and the balance by issue of 7% Preference Shares of ₹100 each at ₹105. Pass necessary journal entries in the books of Star Ltd.	3
20.	A, B and C were partners in a firm sharing profits in 3 : 2 : 1 ratio. The firm closed its books on 31st March every year. B died on 12-06-2023. On B's death, the goodwill of the firm was valued at ₹60,000. On B's death, his share in the profits of the firm till the time of his death was to be calculated on the basis of the previous year's profit which was ₹1,50,000. Calculate B's share in the profit of the firm. Pass necessary journal entries for the treatment of goodwill and B's share of profit at the time of his death.	3
21.	X Ltd. was formed with a capital of ₹15,00,000 divided into equity shares of ₹10 each. Out of these 6,000 shares were issued to the vendors as fully paid as purchase consideration for a business acquired and 3,000 shares were issued to signatories to the Memorandum of Association as fully paid. The Directors offered 1,95,000 shares to the public and called up ₹6 per share and received the entire called up amount on shares allotted. Prepare a Balance Sheet showing Share Capital as per Schedule III Part I of Companies Act, 2013 from the above transactions in the books of 'X' Ltd.	4
22.	Nuhara, Jacob and Heinz entered into partnership on 1st July, 2021 to	4

	share profits and losses in the ratio of 3 : 2 : 1. Nuhara guaranteed that Heinz’s share of profit after charging interest on capital @ 6% p.a. would not be less than ₹36,000 p.a. Their fixed capital balances are ₹2,00,000, ₹1,00,000 and ₹1,00,000 respectively. Profit for the year ended 31st March, 2022 was ₹1,38,000. Prepare Profit and Loss Appropriation A/c.																																									
23.	Kanak Ltd. Company issued debentures of ₹1,00,000 which were issued as follows: 1. For cash at 90% ₹50,000 (Nominal) 2. For creditor for ₹20,000 (Capital expenditure in satisfaction of his claim) ₹25,000 (Nominal) 3. To bankers for a loan of ₹15,000 as collateral security ₹25,000 (Nominal) Pass Journal Entries:	6																																								
24.	Pass the necessary journal entries for the following transactions on dissolution of the firm of Tanya and Mittal: (i) Tanya paid creditors ₹18,500 in full settlement of their claim of ₹20,000. (ii) The firm had unrecorded investment of ₹20,000 which were sold at a loss of 20%. (iii) Amaal, a debtor whose account for ₹2,000 was written off as a bad debt in the previous year, paid 70% of the amount. (iv) The firm had stock of ₹1,00,000. Mittal took over the stock at a discount of 10%. (v) Expenses of Realisation ₹400 were paid by Mittal.	6																																								
25.	X and Y were partners sharing profits in the ratio of 1 : 2. Their Balance Sheet as at 31st March, 2024 was as follows: Balance Sheet of X and Y as on 31st March, 2024 <table><tr><td>Liabilities</td><td>₹</td><td>Assets</td><td>₹</td></tr><tr><td>Creditors</td><td>36,000</td><td>Cash</td><td>20,000</td></tr><tr><td>Outstanding</td><td>4,000</td><td>Debtors 40,000</td><td></td></tr><tr><td>Expenses</td><td></td><td>Less: Provision</td><td></td></tr><tr><td>Capitals:</td><td></td><td>for Bad Debts 500</td><td>39,500</td></tr><tr><td>X-1,50,000</td><td></td><td>Stock</td><td>1,20,000</td></tr><tr><td>Y-3,00,000</td><td>4,50,000</td><td>Furniture</td><td>30,000</td></tr><tr><td></td><td></td><td>Plant</td><td>2,72,500</td></tr><tr><td></td><td></td><td>Patents</td><td>8,000</td></tr><tr><td>Total</td><td>4,90,000</td><td>Total</td><td>4,90,000</td></tr></table> They agreed to admit Z for 1/5th share from 1st April, 2024 on the following terms: 1. Goodwill of the firm was valued at ₹60,000 and Z to bring in his share of premium for goodwill in cash. 2. Provision for Bad Debts be raised by ₹1,500.	Liabilities	₹	Assets	₹	Creditors	36,000	Cash	20,000	Outstanding	4,000	Debtors 40,000		Expenses		Less: Provision		Capitals:		for Bad Debts 500	39,500	X-1,50,000		Stock	1,20,000	Y-3,00,000	4,50,000	Furniture	30,000			Plant	2,72,500			Patents	8,000	Total	4,90,000	Total	4,90,000	6
Liabilities	₹	Assets	₹																																							
Creditors	36,000	Cash	20,000																																							
Outstanding	4,000	Debtors 40,000																																								
Expenses		Less: Provision																																								
Capitals:		for Bad Debts 500	39,500																																							
X-1,50,000		Stock	1,20,000																																							
Y-3,00,000	4,50,000	Furniture	30,000																																							
		Plant	2,72,500																																							
		Patents	8,000																																							
Total	4,90,000	Total	4,90,000																																							

3. Patents are valueless.
4. Stock be reduced by 10%.
5. Outstanding expenses be increased by ₹6,000.
6. ₹2,500 be provided for an unforeseen liability.
7. Z to bring in Capital equal to 1/5th of the combined capital of X and Y.

Prepare Revaluation Account, Partners' Capital Accounts.

OR

A, B and C were in partnership sharing profits and losses in the ratio of 5 : 2 : 2. Their Balance Sheet as at 31st March, 2021 was as follows:

Balance Sheet

as at 31st March, 2021

Liabilities	₹	Assets	₹
Sundry Creditors	56,500	Cash	1,17,300
Bank Overdraft	61,500	Debtors 38,000	
Workmen's Compensation Reserve	32,000	Less: Provision for Doubtful Debts 2,300	35,700
Capitals:		Inventories	1,34,000
A 4,60,000		Machinery	1,00,000
B 3,00,000		Furniture	1,80,000
C 2,90,000	10,50,000	Building	5,70,000
		Goodwill	63,000
Total	12,00,000	Total	12,00,000

On 31st March, 2021, A retired from the firm. All the partners agreed to revalue the assets and liabilities on the following basis:

1. Bad Debts amounted to ₹5,000. A provision for doubtful debts was to be maintained at 10% on debtors.
2. Goodwill of the firm was valued at ₹54,000 and was to be adjusted into the Capital Accounts of B and C, who will share profits in future in the ratio of 5 : 4.
3. The assets and liabilities revalued as follows:
Inventories ₹1,30,000, Machinery ₹82,000, Furniture ₹1,95,000, Building ₹6,00,000
4. A liability of ₹23,000 to be created on account of Claim for Workmen

	Compensation. 5. There was an unrecorded investment in shares of ₹25,000. It was decided to pay off A by giving her this unrecorded investment in full settlement of part payment of ₹28,000, and the remaining amount after two months. Prepare Revaluation Account and Partners' Capital Accounts as on 31st March, 2021.	
26.	Summit Ltd. has been registered with an authorised capital of ₹8,00,000 divided into 8,000 shares of ₹100 each, of which 4,000 shares were offered for public subscription at a premium of ₹5 per share payable as under: On application ₹10 On allotment ₹25 (including premium) On first call ₹40 On final call ₹30 Applications were received for 7,200 shares, of which applications for 1,200 shares were rejected outright, and the rest were allotted 4,000 shares on a pro-rata basis. Excess application money was transferred to allotment. All money was duly received except from Sachin, a holder of 800 shares, who failed to pay allotment and first call money. His shares were later on forfeited and reissued to Shyam at ₹60 per share as ₹70 paid-up. Final call has not been made. Record necessary journal entries. OR a). Paariwarik Ltd. forfeited 600 shares of ₹10 each issued at a premium of ₹3 per share (payable with allotment) for non-payment of allotment of ₹7 per share including premium. The first and final call of ₹3 per share was not yet made. The forfeited shares were re-issued at ₹13 per share fully paid up. Journalise. (b). Janta Ltd forfeited 1,000 shares of ₹10 each, ₹8 per share called up issued at a premium of ₹2 per share to Atul, for non-payment of allotment money of ₹6 per share (including premium). Out of these, 800 shares were reissued at ₹7 per share, ₹8 paid-up. Journalise.	6
	PART B- FINANCIAL STATEMENT ANALYSIS	
27.	Assertion (A): Goods sold on credit does not result in flow of cash and cash equivalents. Reason (R): Sale of goods on credit does not involve cash. Alternatives: (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.	1
28.	Recipes or formulae are shown under which sub-head? (a) Intangible Assets (b) Inventories	1

	(c) Trade Receivables (d) Tangible Assets									
29.	If gross profit ratio is 25%, inventory turnover ratio is 5 times and average inventory is ₹60,000, then what will be the amount of Gross profit? (a) ₹1,20,000 (b) ₹1,50,000 (c) ₹75,000 (d) ₹1,00,000 OR Gross profit is 20% of the net sales. Calculate the value of net revenue from operations if cost of revenue from operation is ₹5,00,000. (a) ₹6,00,000 (b) ₹5,00,000 (c) ₹6,25,000 (d) ₹6,50,000	1								
30.	Which of the following is not an investing cash flow? (a) Purchase of marketable securities for cash (b) Sale of land for cash (c) Sale of shares held as investments (d) Issue of shares OR Which of the following is/are not example(s) of cash flows from investing activity? I. Cash revenue from operations – ₹50,000 II. Commission received – ₹30,000 III. Payment of cash for purchase of fixed assets – ₹5,00,000 IV. Dividend paid – ₹5,000 Codes: (a) Only I (b) II and III (c) I, II and IV (d) Only III	1								
31.	Classify the following items under major heads and sub-heads (if any) in the Balance Sheet of a company as per Schedule III, Part I of the Companies Act, 2013. (i) Work-in-progress (ii) Securities premium (iii) Creditor	3								
32	Prepare common size balance sheet from the following balance sheet of M Ltd. as on 31st March, 2025. Balance Sheet as at 31st March, 2025 <table><tr><td>Particulars</td><td>Note No.</td><td>31st March, 2025 (₹)</td><td>31st March, 2024 (₹)</td></tr><tr><td>I. EQUITY AND LIABILITIES</td><td></td><td></td><td></td></tr></table>	Particulars	Note No.	31st March, 2025 (₹)	31st March, 2024 (₹)	I. EQUITY AND LIABILITIES				3
Particulars	Note No.	31st March, 2025 (₹)	31st March, 2024 (₹)							
I. EQUITY AND LIABILITIES										

	1. Shareholders' Funds Share Capital		30,50,000	20,00,000	
	2. Non-current Liabilities Long-term Borrowings		2,80,000	6,00,000	
			6,70,000	4,00,000	
	3. Current Liabilities Trade Payables				
	Total		40,00,000	30,00,000	
	II. ASSETS				
	1. Non-current Assets				
	(i) Property, Plant & Equipment and Intangible Assets				
	(a)Property, Plant and Equipment		16,00,000	12,00,000	
	(b) Intangible Assets		2,00,000	3,00,000	
	2. Current Assets				
	(i) Inventories		8,00,000	3,00,000	
	(ii) Trade Receivables		12,00,000	10,00,000	
	(iii) Cash and Cash Equivalents		2,00,000	2,00,000	
	Total		40,00,000	30,00,000	
OR					
Complete the following Comparative Statement of Profit and Loss for the year ended 31st March, 2025.					
Comparative Statement of Profit and Loss for the year ended 31st March, 2025					
Particulars	31st March, 2024 (₹)	31st March, 2025 (₹)	Absolute Change (₹)	% Change	
I. Revenue from Operations	?	?	1,00,000	?	
II. Other Income	1,00,000	?	?	?	
III. Total Revenue	6,00,000	?	1,20,000	?	
IV. Expenses					
Employee Benefit Expenses	1,80,000	?	1,08,000	?	
V. Profit Before Tax	?	?	?	?	
(-) Tax @ 30%	?	?	?	?	
Profit After Tax	?	?	?	?	
33.	(i) From the following information, calculate Inventory Turnover Ratio. Net Sales: ₹20,000; Average Inventory: ₹2,750; Gross Loss on Sales: 10%. (ii) From the following information, calculate Inventory Turnover Ratio: Total Sales ₹11,000; Sales Return ₹1,000; Gross Profit ₹2,500; Closing				4

	Inventory ₹3,000; Excess of Closing Inventory over Opening Inventory ₹1,000. OR From the following information, calculate Current Ratio: <table><tr><td>Particulars</td><td>Amount (₹)</td></tr><tr><td>Cash at Bank</td><td>50,000</td></tr><tr><td>Trade Receivables</td><td>2,50,000</td></tr><tr><td>Inventory including Loose Tools</td><td>1,60,000</td></tr><tr><td>Loose Tools</td><td>20,000</td></tr><tr><td>Advance Tax</td><td>15,000</td></tr><tr><td>Working Capital</td><td>2,60,000</td></tr></table>	Particulars	Amount (₹)	Cash at Bank	50,000	Trade Receivables	2,50,000	Inventory including Loose Tools	1,60,000	Loose Tools	20,000	Advance Tax	15,000	Working Capital	2,60,000																																																																									
Particulars	Amount (₹)																																																																																							
Cash at Bank	50,000																																																																																							
Trade Receivables	2,50,000																																																																																							
Inventory including Loose Tools	1,60,000																																																																																							
Loose Tools	20,000																																																																																							
Advance Tax	15,000																																																																																							
Working Capital	2,60,000																																																																																							
34.	From the following balance sheet of Vijaya Ltd. as on 31st March, 2025 and 2024, prepare a Cash Flow Statement of Vikas Ltd. Balance Sheet as at 31st March, 2024 and 2025 <table><tr><th>Particulars</th><th>Note No.</th><th>31st March, 2025 (₹)</th><th>31st March, 2024 (₹)</th></tr><tr><td>I. EQUITY AND LIABILITIES</td><td></td><td></td><td></td></tr><tr><td>1. Shareholders' Funds</td><td></td><td></td><td></td></tr><tr><td> (a) Share Capital</td><td>1</td><td>1,30,000</td><td>90,000</td></tr><tr><td> (b) Reserves and Surplus</td><td></td><td>84,000</td><td>48,000</td></tr><tr><td>2. Current Liabilities</td><td></td><td></td><td></td></tr><tr><td> Trade Payables</td><td></td><td>22,000</td><td>17,400</td></tr><tr><td> Total</td><td></td><td>2,36,000</td><td>1,55,400</td></tr><tr><td>II. ASSETS</td><td></td><td></td><td></td></tr><tr><td>1. Non-current Assets</td><td></td><td></td><td></td></tr><tr><td> (a) Property, Plant and Equipment and Intangible Assets</td><td></td><td></td><td></td></tr><tr><td> (i) Property, Plant and Equipment</td><td></td><td>1,66,000</td><td>93,400</td></tr><tr><td>2. Current Assets</td><td></td><td></td><td></td></tr><tr><td> (a) Inventories</td><td></td><td>26,000</td><td>22,000</td></tr><tr><td> (b) Trade Receivables</td><td></td><td>39,000</td><td>36,000</td></tr><tr><td> (c) Cash and Cash Equivalents</td><td></td><td>5,000</td><td>4,000</td></tr><tr><td> Total</td><td></td><td>2,36,000</td><td>1,85,000</td></tr></table> Notes to Accounts- <table><tr><th>Particulars</th><th>2025 (₹)</th><th>2024 (₹)</th></tr><tr><td>1.Reserves and Surplus</td><td></td><td></td></tr><tr><td>General Reserve</td><td>55,000</td><td>30,000</td></tr><tr><td>Balance of Statement of Profit and Loss</td><td>30,000</td><td>20,000</td></tr><tr><td>Preliminary Expenses</td><td>(1,000)</td><td>(2,000)</td></tr><tr><td>Total</td><td>84,000</td><td>48,000</td></tr></table> Additional Information: (i) Depreciation charged on property, plant and equipment for the year 2024–25 was ₹20,000. (ii) Income tax ₹5,000 has been paid during the year.	Particulars	Note No.	31st March, 2025 (₹)	31st March, 2024 (₹)	I. EQUITY AND LIABILITIES				1. Shareholders' Funds				(a) Share Capital	1	1,30,000	90,000	(b) Reserves and Surplus		84,000	48,000	2. Current Liabilities				Trade Payables		22,000	17,400	Total		2,36,000	1,55,400	II. ASSETS				1. Non-current Assets				(a) Property, Plant and Equipment and Intangible Assets				(i) Property, Plant and Equipment		1,66,000	93,400	2. Current Assets				(a) Inventories		26,000	22,000	(b) Trade Receivables		39,000	36,000	(c) Cash and Cash Equivalents		5,000	4,000	Total		2,36,000	1,85,000	Particulars	2025 (₹)	2024 (₹)	1.Reserves and Surplus			General Reserve	55,000	30,000	Balance of Statement of Profit and Loss	30,000	20,000	Preliminary Expenses	(1,000)	(2,000)	Total	84,000	48,000	6
Particulars	Note No.	31st March, 2025 (₹)	31st March, 2024 (₹)																																																																																					
I. EQUITY AND LIABILITIES																																																																																								
1. Shareholders' Funds																																																																																								
(a) Share Capital	1	1,30,000	90,000																																																																																					
(b) Reserves and Surplus		84,000	48,000																																																																																					
2. Current Liabilities																																																																																								
Trade Payables		22,000	17,400																																																																																					
Total		2,36,000	1,55,400																																																																																					
II. ASSETS																																																																																								
1. Non-current Assets																																																																																								
(a) Property, Plant and Equipment and Intangible Assets																																																																																								
(i) Property, Plant and Equipment		1,66,000	93,400																																																																																					
2. Current Assets																																																																																								
(a) Inventories		26,000	22,000																																																																																					
(b) Trade Receivables		39,000	36,000																																																																																					
(c) Cash and Cash Equivalents		5,000	4,000																																																																																					
Total		2,36,000	1,85,000																																																																																					
Particulars	2025 (₹)	2024 (₹)																																																																																						
1.Reserves and Surplus																																																																																								
General Reserve	55,000	30,000																																																																																						
Balance of Statement of Profit and Loss	30,000	20,000																																																																																						
Preliminary Expenses	(1,000)	(2,000)																																																																																						
Total	84,000	48,000																																																																																						

KENDRIYA VIDYALAYA SANGATHAN RANCHI REGION
SECOND PRE-BOARD EXAMINATION (2025-26)-CLASS - XII
SUBJECT - BUSINESS STUDIES

TIME: 3 HOURS

MM-80

General instructions:

- This question paper contains 34 questions
- Marks are indicated against each question.
- Answers should be brief and to the point.
- Answers to the questions carrying 3 marks may be from 50 to 75 words.
- Answers to the questions carrying 4 marks may be about 150 words.
- Answers to the questions carrying 6 marks may be about 200 words.
- Attempt all parts of the questions together.

Q.No	QUESTION	MARKS
1	Which of the following features of a profession is fully satisfied by management? (A) Restricted entry (B) Well defined body of knowledge (C) Ethical code of conduct (D) Service motive	1
2	“What distinguishes a successful Manager from a less successful one is the ability to put the principles into practice.” Which aspect of the nature of management is highlighted in the above statement? (A) Management as a Science. (B) Management as an art. (C) Management as a profession. (D) Management is an intangible force.	1
3	Assertion (A): The application of principles of management is contingent. Reason (R): The principles of management are not rigid prescriptions, which have not followed absolutely. (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 but Reason (R) is false. (D) Assertion (A) is false but Reason (R) is true.	1
4	Management has its own set of principles, which are broad and general guidelines about management, decision -making and behaviour. Which of the following techniques of scientific management relates efficiency to remuneration? (A) Differential piece wage System (B) Time study (C) Standardisation and Simplification of work (D) Motion study	1
5	Several initiatives have been undertaken by the Government of India to encourage domestic manufacturing and export of defence equipment's. 'Make In India' in Defence, was one such scheme launched by the Government to encourage companies across the world to manufacture defence products in India. To which dimension of business environment does the above case relates to? (A) Economic Environment (B) Legal Environment (C) Political Environment	1

	(D)Social Environment																					
6	Aadvik Surgical is such a manufacturing firm as manufactures the different items used in hospitals. One year, on account of the apprehension of a virus spreading fast, all of a sudden there was an increase in the demand for 'masks'. It was being planned to manufacture masks in a large quantity, with this objective there were so many rounds of meetings of the partners of the firm. In order to know the reality of facts the specialists were invited, on whom there was a lot of expenditure. This process consumed so much time that by the time the final decision could be taken, the apprehension of the virus passed away. As a result, there was a sharp fall in the demand for masks. The money and time of the company were both misspent. Identify the 'limitation of planning' in the event described above. (A) Planning leads to rigidity. (B) Planning may not work in a dynamic environment. (C) Planning reduces creativity. (D) Planning involves huge costs	1																				
7	Which of the following steps in the process of selection, helps the manager to eliminate unqualified or unfit job-seekers based on the information supplied in the application form: (A) Preliminary screening (B) Employment interview (C) Reference and background checks (D) Selection decision	1																				
8	Identify the stage of 'Selection Process' illustrated by the picture given here:  (A) Employment Interview (B) Selection Decision (C) Selection Test (D) None of the above	1																				
9	Directing takes place wherever superior subordinate relationship exist. Identify the characteristic highlighted in the above statement. A) Directing is a continuous process. B) Directing flows from top to bottom. C)Directing takes place at every level D) Directing initiates action.	1																				
10	Match the various needs of 'Maslow's Hierarchy of needs' in Column-I with their respective statements in Column-II: <table><tr><th colspan="2">Column-I</th><th colspan="2">Column-II</th></tr><tr><td>A</td><td>Self-Actualisation needs</td><td>(i)</td><td>It includes those needs which need to be satisfied to keep a person alive.</td></tr><tr><td>B</td><td>Basic Physiological needs</td><td>(ii)</td><td>It refers to the need for respects, autonomy, status, recognition and attention.</td></tr><tr><td>C</td><td>Affiliation needs</td><td>(iii)</td><td>It refers to the need for affection, sense of belongingness, acceptance and friendship.</td></tr><tr><td>D</td><td>Esteem needs</td><td>(iv)</td><td>It includes growth, self-fulfilment, achievement of goals, etc.</td></tr></table>	Column-I		Column-II		A	Self-Actualisation needs	(i)	It includes those needs which need to be satisfied to keep a person alive.	B	Basic Physiological needs	(ii)	It refers to the need for respects, autonomy, status, recognition and attention.	C	Affiliation needs	(iii)	It refers to the need for affection, sense of belongingness, acceptance and friendship.	D	Esteem needs	(iv)	It includes growth, self-fulfilment, achievement of goals, etc.	1
Column-I		Column-II																				
A	Self-Actualisation needs	(i)	It includes those needs which need to be satisfied to keep a person alive.																			
B	Basic Physiological needs	(ii)	It refers to the need for respects, autonomy, status, recognition and attention.																			
C	Affiliation needs	(iii)	It refers to the need for affection, sense of belongingness, acceptance and friendship.																			
D	Esteem needs	(iv)	It includes growth, self-fulfilment, achievement of goals, etc.																			

	(a) A-(i), B-(ii), C-(iii), D-(iv) (b) A-(iv), B-(i), C-(iii), D-(ii) (c) A-(ii), B-(iii), C-(i), D-(iv) (d) A-(iii), B-(ii), C-(i), D-(iv)	
11	Which of the following non-financial incentives can be used to motivate the employees? (A) Employee Recognition Programmes (B) Pay and Allowances (C) Retirement Benefits (D) Status	1
12	Which of the following is a limitation of controlling? (a) Judging accuracy of standards (b) Little control on external factors (c) Both (a) and (b) (d) Neither (a) and (b)	1
13	Assertion (A): A long-term investment decision is very crucial for any business. Reason (R): Long term investment decisions affect earning capacity of the business in the long run. (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 but Reason (R) is false (D) Assertion (A) is false but Reason (R) is true	1
14	"Healthy Foods Ltd." has been earning handsome profits for the last many years consecutively. The company has to decide about the dividend to be declared this year. The company has enough goodwill in the capital market. As such, it is not at all difficult for it to arrange capital in the capital market. Keeping in view all these factors, the company decided to increase last year's dividend by 15 percent. Which component affecting dividend decision has been highlighted in the above paragraph? (A) Cash flow position (B) Taxation policy (C) Access to capital market (D) Growth opportunity	1
15	Identify the decision which is not taken under Financial Management. (A) Dividend Decision (B) Capital Budgeting Decision (C) Pricing Decision (D) Both (B) and (C)	1
16	JKL Ltd. has Debt Equity ratio of 3:1 whereas XYZ Ltd. has Debt Equity ratio of 1:1. Name the advantage JKL Ltd. will have over XYZ Ltd., when the rate of interest is lower than the rate of return on investment of the company. (A) Trading on equity (B) Low risk (C) Low cost of equity (D) Greater flexibility	1
17	Primary and secondary markets: (a) Compete with each other (b) Complement each other (c) Function independently (d) Control each other	1
18	Who regulates the stock exchanges in India? (A) Reserve Bank of India (RBI) (B) Ministry of Finance (C) Securities and Exchange Board of India (SEBI)	1

	(D) State Governments	
19	One of the important decision areas under the marketing function of is managing inventory, which is a component of _____ element of Marketing Mix. (a) Branding (b) Pricing (c) Promotion (d) Physical distribution.	1
20	Saumya decided to start a business of selling dress material from her house. She did various online surveys to find out about the preferences of prospective customers. Based on this, she prepared a detailed analysis of the business. She then made important decisions including deciding about the features, quality, packaging, labelling and branding of the dress material. Identify the element of Marketing Mix discussed above. (a) Production (b) Promotion (c) Product (d) Place	1
21	Ansh is responsible for formulating and implementing plans in his company 'Selux Ltd'. he takes all the decisions relating to marketing and finance. (a) Identify the level of management at which Ansh was working. (b) State two other functions being performed by Ansh.	3
22	Aarav and Nikhil have decided to open a coaching centre in Ranchi. They have already taken the necessary steps in order to start the operations in the next 4 weeks which includes identifying and dividing the work into manageable activities as well as the process of departmentalisation. Explain the next two steps that Aarav and Nikhil have to perform as a part of the organising process.	3
23	State any three functions performed by stock exchange. OR Define capital market. State the two types of capital market.	3
24	Explain the following functions of marketing - Product Designing and Development - Standardization and grading OR Explain the following functions of marketing - Customer Support services - Physical Distribution	3
25	Explain the following techniques of scientific management: (a) Time Study (b) Motion Study OR Explain the following principles of General Management: (a) Esprit De Corps (b) Principle of Equity	4
26	Piyush Agro Ltd. started a new venture for distribution of harmless and chemical – free fertiliser vegetables. They conducted a survey to find out consumer preferences for such vegetables. They found that most of the distribution of harmless and chemical-free fertiliser consumers were concerned about the harmful chemicals being used in growing the vegetables. They found out that 90% of the households were searching for alternatives. The company contacted a group of agricultural experts to lay down the procedure for growing the vegetables by the farmers. They decided to train the farmers in new technology to grow chemical-free vegetables according to new innovative methods. The experts also suggested soil management techniques through which farmers would be able to create an abundant and lasting harvest. Identify and explain the two dimensions of business environment highlighted in the above para.	4
27	JK Ltd. holds an Annual Management Programme every year in the month of March in which the top managerial personnel formulate plans for the next year by analyzing and predicting the future to meet future events effectively.	4

	As they are responsible for providing direction to the organization, facts are thoroughly checked through scientific calculations. Detailed plans are prepared after discussion with professional experts. Preliminary investigations are also undertaken to find out the viability of the plan. Since it is an intellectual activity requiring intelligent imagination and sound judgement, it is mainly done by the top management. Usually rest of the members just implement the plans. Middle level managers are neither allowed to deviate from the plans nor are they permitted to act on their own. The top management ensures that the expenses incurred in formulating the plans justify the benefits derived from them. State two limitations and two features of planning discussed above and quote lines from above paragraph.	
28	KD Industries Ltd. approached a well-established university in the city of Ranchi to recruit qualified personnel for various technical and professional jobs. They selected Kalpana, Neha, Khushi and Shalani for various vacancies in the organisation. After the selection and placement, 'KD Industries Ltd.' felt the need to increase the skills and abilities, and the development of the positive attitude of the employees to perform their specific jobs better. The company also realised that learning new skills would improve the job performance of the employees. Hence, the company decided to take the actions for the same. (a) Name the step of the staffing process regarding which the company decided to take action. (b) State the benefits of the action to 'KD Industries Ltd.'	4
29	How does controlling help in “Judging accuracy of standards” and “Ensuring order and discipline”? OR Explain the importance of controlling in an organization.	4
30	“Time Line” watch manufacturing company is a renowned company marketing watch. It performs various activities like, market analysis, product designing or merchandising, packaging, warehousing, branding, pricing, promotion, and selling. The company maintains good customer relations through various follow up activities. This helps the company in procuring repeat sales orders. (i) Name and explain the concept related to the activities mentioned in the above paragraph. (ii) Explain any two features of the concept identified in part (i).	4
31	Voltage fluctuations have been common and quite high in India. They harm our electrical appliances like televisions, refrigerators and air conditioners, often leaving them in a permanently damaged condition. K-Guard Company decided to manufacture stabilizers for North India where the voltage fluctuation ranges from 220 V to 230 V. Once the demand for North India was taken care of, they decided to launch stabilizers of varying voltages from 90 V-260 V for meeting the requirements of voltage fluctuations in other regions of India also. Three engineers were appointed for South, West and East regions of India, as the voltage was different in all the three regions. Though all the engineers were appointed to manufacture stabilizers but the product differed from region to region. (a) Identify the organizational structure of K-Guard Company. (b) State any two advantages and two limitations of the structure identified in the above para.	6
32	Harish is an employee at a multinational company. Initially, he joined the firm to earn a stable income to support his family. The company provided him with a safe and secure working environment, along with health benefits. Over time, Harish developed strong bonds with his co-workers and became an important part of the team. He was later promoted and appreciated for his dedication. Now, he is working on innovative ideas to bring meaningful changes to the company and aims to achieve personal growth and creativity through his work. (i) Identify and explain the different levels of Maslow's Hierarchy of Needs that Harish has progressed through in the case above. (ii) How can a manager use Maslow's theory to effectively motivate employees like Harish at different stages of their needs?	6

	OR Shiva Ltd. is a garment making company. It has recently decided to make the job environment better by redefining the workplace for the employees by designing jobs having greater variety of content. This has definitely increased the interest of employees in their work. This step of the company has earned a favourite mentioning in a national newspaper. The promotion policy of the company has now been made more effective by allowing employees to grow to the higher levels. Many of the employees had earlier complained of fear of getting fired. The company has clarified its stance on this and told them not to worry by assuring them permanency after crossing the ad hoc period of six months. With everything going right for the organization the top management has started devoting a lot of time on special features of the internal environment which will distinguish the organization from other companies in the industry. The employees know that working in this organization will only add to their good track record. The company assures the employees a higher ranking in the organizational set up, provided one works hard, with authority, rewards, recognition and better perquisites. With such an effort, the organization is geared to touch new heights. Identify and explain any four non-financial incentives that have been highlighted in the above case.	
33	Explain any six factors that determine the requirement of fixed capital of a company.	6
34	State any Six responsibilities that should be kept in mind by a consumer while purchasing, using and consuming goods and services, according to the Consumer Protection Act,2019.	6

Kendriya Vidyalaya Sangathan: Ranchi Region

Second Pre-Board Examination (2025-26)

Subject- ECONOMICS (030)

Class – XII

Max. Marks:80

Time:3hr

General Instructions:

Read the following instructions carefully and follow them:

(1) This question paper contains 34 questions. All questions are compulsory.

(11) This question paper contains two sections:

Section A-Macro Economics

Section B-Indian Economic Development

(iii) This question paper contains 20 Multiple Choice type questions. Each question carries 1 mark.

(iv) This question paper contains 4 Short Answer Type-1 questions. Each question carries 3 marks.
Answer these questions in 60 to 80 words.

(v) This question paper contains 6 Short Answer Type-II questions. Each question carries 4 marks.
Answer these questions in 80 to 100 words.

(vi) This question paper contains 4 Long Answer type questions. Each question carries 6 marks.
Answer these questions in 100 to 150 words.

(vii) Attempt all parts of a question together.

(viii) 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.

(ix) 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 has to be attempted.

सामान्य निर्देश:

निम्नलिखित निर्देशों को ध्यानपूर्वक पढ़ें और उनका पालन करें:

(1) इस प्रश्न पत्र में कुल 34 प्रश्न हैं। सभी प्रश्न अनिवार्य हैं।

(2) इस प्रश्न पत्र में दो खंड हैं:

खंड A – समष्टि अर्थशास्त्र (Macro Economics)

खंड B – भारतीय आर्थिक विकास (Indian Economic Development)

(3) इस प्रश्न पत्र में 20 बहुविकल्पीय प्रश्न (Multiple Choice Questions) हैं। प्रत्येक प्रश्न के लिए 1 अंक निर्धारित है।

(4) इस प्रश्न पत्र में 4 लघु उत्तरीय प्रश्न – प्रकार 1 (Short Answer Type-I) हैं। प्रत्येक प्रश्न के लिए 3 अंक निर्धारित हैं। इन प्रश्नों के उत्तर 60 से 80 शब्दों में दें।

(5) इस प्रश्न पत्र में 6 लघु उत्तरीय प्रश्न – प्रकार II (Short Answer Type-II) हैं। प्रत्येक प्रश्न के लिए 4 अंक निर्धारित हैं। इन प्रश्नों के उत्तर 80 से 100 शब्दों में दें।

(6) इस प्रश्न पत्र में 4 दीर्घ उत्तरीय प्रश्न (Long Answer Type Questions) हैं। प्रत्येक प्रश्न के लिए 6 अंक निर्धारित हैं। इन प्रश्नों के उत्तर 100 से 150 शब्दों में दें।

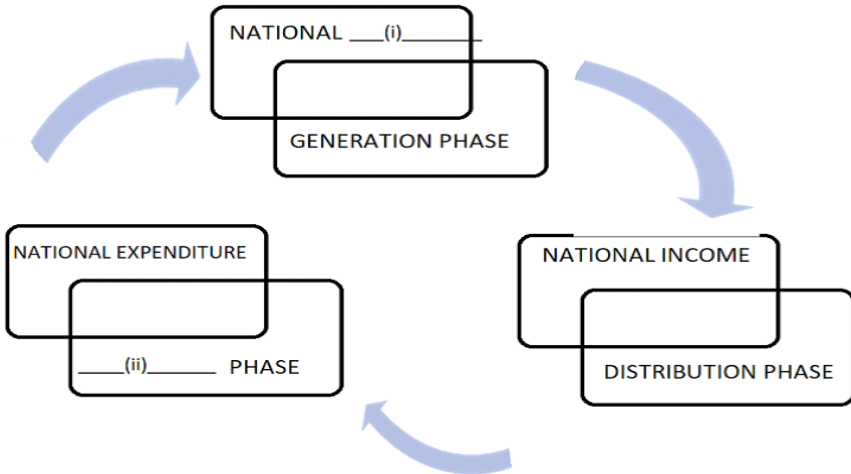
(7) किसी प्रश्न के सभी उप-प्रश्न एक साथ हल करें।

(8) दृष्टिबाधित विद्यार्थियों के लिए, जिन प्रश्नों में दृश्य सामग्री, मानचित्र आदि शामिल हैं, उनके स्थान पर **अलग प्रश्न** प्रदान किए गए हैं। ऐसे प्रश्न केवल दृष्टिबाधित विद्यार्थियों द्वारा ही हल किए जाने हैं।

(9) प्रश्न पत्र में **कुल मिलाकर कोई विकल्प नहीं** है। तथापि, कुछ प्रश्नों में **आंतरिक विकल्प (internal choice)** दिया गया है। ऐसे प्रश्नों में केवल **एक ही विकल्प** का उत्तर देना है।

Section A-Macro Economics

1.	Read the following statements: Assertion (A) and Reason (R). Choose the correct option from those given below: Assertion (A): Commercial Bank acts as a banker to the Government. Reason (R): Reserve Bank is the only institution which can issue currency. Options: - Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A). - Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A). - Assertion (A) is true, but Reason (R) is false. - Assertion (A) is false, but Reason (R) is true. निम्नलिखित कथनों को पढ़ें: अभिकथन (A) और कारण (R)। नीचे दिए गए विकल्पों में से सही विकल्प चुनें: अभिकथन (A): वाणिज्यिक बैंक सरकार के बैंकर के रूप में कार्य करता है। कारण (R): रिजर्व बैंक एकमात्र संस्था है जो मुद्रा जारी कर सकती है। विकल्प: - अभिकथन (A) और कारण (R) दोनों सत्य हैं और कारण (R), अभिकथन (A) की सही व्याख्या है। - अभिकथन (A) और कारण (R) दोनों सत्य हैं, लेकिन कारण (R), अभिकथन (A) की सही व्याख्या नहीं है। - अभिकथन (A) सत्य है, लेकिन कारण (R) असत्य है। - अभिकथन (A) असत्य है, लेकिन कारण (R) सत्य है।	1
2.	In Q4 of FY 2024-25, net foreign direct investment (FDI) inflows stood at approximately US \$0.4 billion, and for the full year stood at US \$1.0 billion. On the basis of the given data, this transaction will be recorded on the _____. - Credit side and current account - Debit side and current account - Credit side and capital account - Debit side and capital account वित्त वर्ष 2024-25 की चौथी तिमाही में, शुद्ध प्रत्यक्ष विदेशी निवेश (FDI) अंतर्वाह लगभग 0.4	1

	बिलियन अमेरिकी डॉलर रहा, और पूरे वर्ष के लिए 1.0 बिलियन अमेरिकी डॉलर रहा। दिए गए आँकड़ों के आधार पर, यह लेनदेन _____ पर दर्ज किया जाएगा। a. जमा पक्ष और चालू खाता b. नाम पक्ष और चालू खाता c. जमा पक्ष और पूँजी खाता d. नाम पक्ष और पूँजी खाता					
3.	Read the following figure carefully and choose the correct pair from the alternatives given below निम्नलिखित आकृति को ध्यानपूर्वक पढ़ें और नीचे दिए गए विकल्पों में से सही युग्म का चयन करें ।  Alternatives: a. Output, Production b. Value added, Production c. Output, Disposition d. Wealth, Development विकल्प: क. उत्पादन, उत्पादन ख. मूल्य वर्धन, उत्पादन ग. उत्पादन, निपटान घ. धन, विकास	1				
4.	Identify the incorrect pair from the following Column I and Column II and choose the correct alternative: निम्नलिखित कॉलम I और कॉलम II से गलत युग्म की पहचान करें और सही विकल्प चुनें: <table><tr><th>Column I स्तंभ I</th><th>Column II स्तंभ II</th></tr><tr><td>A. At break – even point B. Value of aggregate supply C. Marginal Propensity to Save D. Consumption Function A. सम-विच्छेद बिंदु पर B. समग्र आपूर्ति का मान</td><td>i. $C = Y$ ii. Equals to domestic income iii. Ratio of change in savings to change in income iv. Relationship between consumption and saving i. $C = Y$ ii. घरेलू आय के बराबर iii. बचत में परिवर्तन का आय में परिवर्तन से अनुपात</td></tr></table>	Column I स्तंभ I	Column II स्तंभ II	A. At break – even point B. Value of aggregate supply C. Marginal Propensity to Save D. Consumption Function A. सम-विच्छेद बिंदु पर B. समग्र आपूर्ति का मान	i. $C = Y$ ii. Equals to domestic income iii. Ratio of change in savings to change in income iv. Relationship between consumption and saving i. $C = Y$ ii. घरेलू आय के बराबर iii. बचत में परिवर्तन का आय में परिवर्तन से अनुपात	1
Column I स्तंभ I	Column II स्तंभ II					
A. At break – even point B. Value of aggregate supply C. Marginal Propensity to Save D. Consumption Function A. सम-विच्छेद बिंदु पर B. समग्र आपूर्ति का मान	i. $C = Y$ ii. Equals to domestic income iii. Ratio of change in savings to change in income iv. Relationship between consumption and saving i. $C = Y$ ii. घरेलू आय के बराबर iii. बचत में परिवर्तन का आय में परिवर्तन से अनुपात					

	C. सीमांत बचत प्रवृत्ति D. उपभोग फलन	iv. उपभोग और बचत के बीच संबंध										
	Alternatives: a. A - (i) b. B – (ii) c. C – (iii) d. D – (iv)											
5.	On the basis of the given information, total credit creation would be..... (choose the correct alternative to fill up the blank) दी गई जानकारी के आधार पर, कुल ऋण सृजन होगा...(रिक्त स्थान भरने के लिए सही विकल्प चुनें) <table><tr><td>Particulars</td><td>विवरण ₹</td><td>₹ in crore करोड़ में</td></tr><tr><td>Primary deposits प्राथमिक जमा</td><td></td><td>400</td></tr><tr><td>LRR (%) एलआरआर (%) 20</td><td></td><td>20</td></tr></table> a. ₹ 1000 b. ₹ 5000 c. ₹ 2000 d. ₹ 1500		Particulars	विवरण ₹	₹ in crore करोड़ में	Primary deposits प्राथमिक जमा		400	LRR (%) एलआरआर (%) 20		20	1
Particulars	विवरण ₹	₹ in crore करोड़ में										
Primary deposits प्राथमिक जमा		400										
LRR (%) एलआरआर (%) 20		20										
6.	Read the following statements: Assertion (A) and Reason (R). Choose the correct option from those given below: Assertion (A): External Assistance is recorded in the Current Account of the Balance of Payments of a nation. Reason (R): External Assistance includes bilateral and multilateral loans received/extended by a nation. Options: 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. निम्नलिखित कथनों को पढ़ें: अभिकथन (A) और कारण (R)। नीचे दिए गए विकल्पों में से सही विकल्प चुनें: अभिकथन (A): बाह्य सहायता किसी राष्ट्र के भुगतान संतुलन के चालू खाते में दर्ज की जाती है। कारण (R): बाह्य सहायता में किसी राष्ट्र द्वारा प्राप्त/विस्तारित द्विपक्षीय और बहुपक्षीय ऋण शामिल होते हैं। विकल्प: a. अभिकथन (A) और कारण (R) दोनों सत्य हैं और कारण (R), अभिकथन (A) की सही व्याख्या		1									

	a. कथन 1 सही है, और कथन 2 गलत है। b. कथन 1 गलत है, और कथन 2 सही है। c. दोनों कथन सही हैं। d. दोनों कथन गलत हैं।																																			
11.	During a banking crisis, people started withdrawing large amount of cash. RBI responded by injecting liquidity and maintaining public confidence in the banking system. Identify and explain functions of RBI in such a scenario. OR “The statutory requirement of the Reserve Ratio (RR) acts as a limit to the amount of credit that banks can create.” Justify the given statement with the valid explanation. बैंकिंग संकट के दौरान, लोगों ने बड़ी मात्रा में नकदी निकालना शुरू कर दिया। आरबीआई ने तरलता बढ़ाकर और बैंकिंग प्रणाली में जनता का विश्वास बनाए रखकर प्रतिक्रिया व्यक्त की। ऐसी स्थिति में आरबीआई के कार्यों की पहचान कीजिए और उनकी व्याख्या कीजिए। अथवा “आरक्षित अनुपात (आरआर) की वैधानिक आवश्यकता बैंकों द्वारा सृजित ऋण की मात्रा पर एक सीमा के रूप में कार्य करती है।” दिए गए कथन की उचित व्याख्या कीजिए।	3																																		
12.	From the following data, calculate National Income (NNP at factor cost) using the income method: <table><tr><th>Particulars</th><th>₹ in crore</th></tr><tr><td>1. Compensation of employees</td><td>500</td></tr><tr><td>2. Rent and royalty</td><td>100</td></tr><tr><td>3. Profits</td><td>120</td></tr><tr><td>4. Net factor income from abroad</td><td>20</td></tr><tr><td>5. Interest</td><td>80</td></tr><tr><td>6. Mixed income of self-employed</td><td>200</td></tr><tr><td>7. Indirect taxes</td><td>90</td></tr><tr><td>8. Subsidies</td><td>10</td></tr><tr><td>9. Consumption of fixed capital</td><td>70</td></tr></table> 12. निम्नलिखित आँकड़ों से, आय विधि का उपयोग करके राष्ट्रीय आय (कारक लागत पर एनएनपी) की गणना कीजिए: विवरण ₹ करोड़ में <table><tr><td>1. कर्मचारियों का पारिश्रमिक</td><td>500</td></tr><tr><td>2. किराया और रॉयल्टी</td><td>100</td></tr><tr><td>3. लाभ</td><td>120</td></tr><tr><td>4. विदेश से शुद्ध कारक आय</td><td>20</td></tr><tr><td>5. ब्याज</td><td>80</td></tr><tr><td>6. स्व-नियोजित व्यक्तियों की मिश्रित आय</td><td>200</td></tr><tr><td>7. अप्रत्यक्ष कर</td><td>90</td></tr></table>	Particulars	₹ in crore	1. Compensation of employees	500	2. Rent and royalty	100	3. Profits	120	4. Net factor income from abroad	20	5. Interest	80	6. Mixed income of self-employed	200	7. Indirect taxes	90	8. Subsidies	10	9. Consumption of fixed capital	70	1. कर्मचारियों का पारिश्रमिक	500	2. किराया और रॉयल्टी	100	3. लाभ	120	4. विदेश से शुद्ध कारक आय	20	5. ब्याज	80	6. स्व-नियोजित व्यक्तियों की मिश्रित आय	200	7. अप्रत्यक्ष कर	90	3
Particulars	₹ in crore																																			
1. Compensation of employees	500																																			
2. Rent and royalty	100																																			
3. Profits	120																																			
4. Net factor income from abroad	20																																			
5. Interest	80																																			
6. Mixed income of self-employed	200																																			
7. Indirect taxes	90																																			
8. Subsidies	10																																			
9. Consumption of fixed capital	70																																			
1. कर्मचारियों का पारिश्रमिक	500																																			
2. किराया और रॉयल्टी	100																																			
3. लाभ	120																																			
4. विदेश से शुद्ध कारक आय	20																																			
5. ब्याज	80																																			
6. स्व-नियोजित व्यक्तियों की मिश्रित आय	200																																			
7. अप्रत्यक्ष कर	90																																			

	8. सस्विडी	10																									
	9. स्थायी पूँजी का उपभोग	70																									
13.	Given the $C = 100 + 0.75Y$ is a consumption function (where C = consumption expenditure and Y = national income) and investment expenditure is 800. On the basis of this information calculate: a. Equilibrium level of national income b. Savings at equilibrium level of national income. दिया गया है कि $C = 100 + 0.75Y$ एक उपभोग फलन है (जहाँ C = उपभोग व्यय और Y = राष्ट्रीय आय) और निवेश व्यय 800 है। इस जानकारी के आधार पर गणना कीजिए: a. राष्ट्रीय आय का संतुलन स्तर b. राष्ट्रीय आय के संतुलन स्तर पर बचत। OR The following table illustrates the multiplier process after making an additional investment of ₹ 1,000 crores. Calculate the missing values: या निम्नलिखित तालिका ₹1,000 करोड़ के अतिरिक्त निवेश के बाद गुणक प्रक्रिया को दर्शाती है। लुप्त मानों की गणना कीजिए: <table><tr><td></td><td>Increase in Income (₹ in Crore)</td><td>Change in Consumption (₹ in Crore)</td><td>Change in Saving (₹ in Crore)</td></tr><tr><td>First Round</td><td>?</td><td>?</td><td>200</td></tr><tr><td>Second Round</td><td>?</td><td>640</td><td>?</td></tr><tr><td>All Other Round</td><td>?</td><td>?</td><td>?</td></tr><tr><td></td><td>?</td><td>-</td><td>-</td></tr><tr><td>Total</td><td>?</td><td>?</td><td>?</td></tr></table>			Increase in Income (₹ in Crore)	Change in Consumption (₹ in Crore)	Change in Saving (₹ in Crore)	First Round	?	?	200	Second Round	?	640	?	All Other Round	?	?	?		?	-	-	Total	?	?	?	2 2 4
	Increase in Income (₹ in Crore)	Change in Consumption (₹ in Crore)	Change in Saving (₹ in Crore)																								
First Round	?	?	200																								
Second Round	?	640	?																								
All Other Round	?	?	?																								
	?	-	-																								
Total	?	?	?																								
14.	A country imports petroleum, electronic gadgets, and luxury cars from different nations. It also pays royalties to foreign companies and remits profits to foreign investors. Based on this information, identify sources of demand for foreign exchange and briefly explain each. एक देश विभिन्न देशों से पेट्रोलियम, इलेक्ट्रॉनिक उपकरण और लक्ज़री कारें आयात करता है। वह विदेशी कंपनियों को रॉयल्टी भी देता है और विदेशी निवेशकों को लाभ भेजता है। इस जानकारी के आधार पर, विदेशी मुद्रा की माँग के स्रोतों की पहचान कीजिए और प्रत्येक की संक्षेप में व्याख्या कीजिए।		4																								
15.	Ms. Sarika is a retired government employee. Every month, she earns rental income from a property she owns. She has also invested in fixed deposit, which provide her with interest income. Occasionally, she receives cash transfers from her family members abroad. Classify, Ms. Sarika's income as factor income or transfer income, giving valid reasons in support of your answer. OR		4																								

	“Under the Expenditure Method, the value of Gross Domestic Product (GDP) can be estimated by adding the final expenditure incurred by all the sectors of an economy.” In the light of the given statement, explain the expenditure incurred by any two sectors. सुश्री सारिका एक सेवानिवृत्त सरकारी कर्मचारी हैं। हर महीने, वह अपनी एक संपत्ति से किराये की आय अर्जित करती हैं। उन्होंने सावधि जमा (एफडी) में भी निवेश किया है, जिससे उन्हें ब्याज मिलता है। कभी-कभी, उन्हें विदेश में रहने वाले अपने परिवार के सदस्यों से नकद हस्तांतरण प्राप्त होता है। अपने उत्तर के समर्थन में वैध कारण देते हुए, सुश्री सारिका की आय को साधन आय या हस्तांतरण आय के रूप में वर्गीकृत करें। या “व्यय विधि के अंतर्गत, किसी अर्थव्यवस्था के सभी क्षेत्रों द्वारा किए गए अंतिम व्यय को जोड़कर सकल घरेलू उत्पाद (जीडीपी) के मूल्य का अनुमान लगाया जा सकता है।” दिए गए कथन के आलोक में, किन्हीं दो क्षेत्रों द्वारा किए गए व्यय की व्याख्या कीजिए।	
16.	a. Give the meaning of voluntary unemployment, involuntary unemployment and full employment. b. State whether the following statements are true or false. Give valid reasons for your answers. i. Unplanned inventories accumulate when planned investment is less than planned saving. ii. Deflationary gap exists when aggregate demand is greater than aggregate supply at full employment level. iii. Average propensity to save can never be negative. OR a. “Saving curve can be derived from the consumption curve”. Justify the statement, citing valid steps with the help of a well-labelled diagram. b. For two hypothetical economies A and B, the value of Marginal Propensity to Consume (MPC) stands at 0.6 and 0.8 respectively. Assuming for both the economies, Autonomous Consumption ($\bar{C}$) ₹ 40 crore and Investment Expenditure (I) ₹ 100 crore. Calculate: i. Break-even level of income for Economy A ii. Equilibrium level of income for Economy B क. स्वैच्छिक बेरोजगारी, अनैच्छिक बेरोजगारी और पूर्ण रोजगार का अर्थ बताइए। ख. बताइए कि निम्नलिखित कथन सत्य हैं या असत्य। अपने उत्तरों के लिए वैध कारण दीजिए। i. अनियोजित मालसूची तब संचित होती है जब नियोजित निवेश नियोजित बचत से कम होता है। ii. अपस्फीति अंतराल तब होता है जब पूर्ण रोजगार स्तर पर समग्र मांग समग्र आपूर्ति से अधिक होती है। iii. औसत बचत प्रवृत्ति कभी भी ऋणात्मक नहीं हो सकती। या क. "बचत वक्र उपभोग वक्र से प्राप्त किया जा सकता है"। एक सुस्पष्ट आरेख की सहायता से वैध चरणों का हवाला देते हुए, कथन की पुष्टि कीजिए।	3 3 3 3

	ख. दो काल्पनिक अर्थव्यवस्थाओं A और B के लिए, सीमांत उपभोग प्रवृत्ति (MPC) का मान क्रमशः 0.6 और 0.8 है। दोनों अर्थव्यवस्थाओं के लिए स्वायत्त उपभोग (c) ₹ 40 करोड़ और निवेश व्यय (I) ₹ 100 करोड़ मानते हुए। गणना कीजिए: i. अर्थव्यवस्था A के लिए आय का सम-विच्छेद स्तर ii. अर्थव्यवस्था B के लिए आय का संतुलन स्तर	
17.	Read the following text carefully Government provides certain goods and services which cannot be provided by the market mechanism. Examples of such goods are National defence, roads, government administration etc. which are referred to as public goods. There are two major differences between public and private goods. On the benefits of public goods are available to all and are not only restricted to one particular consumer. For example, if a person wears a shirt, it will not be available to others. It is said that this person's consumption stands in arrival relationship to the consumption of others. However, if we consider a public park or measures to reduce air pollution the benefits will be available to all. One person's consumption of a good does not reduce the amount available for consumption for others and so several people can enjoy the benefits that is the consumption of many people is not rivalrous. Two, in case of private goods, anyone who does not pay for the goods can be excluded from enjoying its benefits. If you do not buy a ticket, you will not be allowed to watch a movie at a local cinema hall. However, in case of public goods there is no feasible way of excluding anyone from enjoying the benefits of goods. That is why public goods are called non-excludable. Even if some users do not pay, it is difficult and sometimes impossible to collect fees for the public good. These non-paying users are known as 'free-riders'. Consumers will not voluntarily pay for what they can get for free and 4 which there is no exclusive title to the property being enjoyed. The link between the producer and consumer which occurs through the payment process is broken and the government must step in to provide for such goods. On the basis of the given text and common understanding answer the following questions: (a) Describe how the government's role in providing public goods impacts community welfare. (b) Define free-riders explain the challenges first by the free-riders in the context of public goods. निम्नलिखित पाठ को ध्यानपूर्वक पढ़ें सरकार कुछ ऐसी वस्तुएँ और सेवाएँ प्रदान करती है जो बाज़ार तंत्र द्वारा प्रदान नहीं की जा सकतीं। ऐसी वस्तुओं के उदाहरण हैं राष्ट्रीय रक्षा, सड़कें, सरकारी प्रशासन आदि, जिन्हें सार्वजनिक वस्तुएँ कहा जाता है। सार्वजनिक और निजी वस्तुओं में दो प्रमुख अंतर हैं। सार्वजनिक वस्तुओं के लाभ सभी के लिए उपलब्ध होते हैं और केवल एक विशेष उपभोक्ता तक ही सीमित नहीं होते। उदाहरण के लिए, यदि कोई व्यक्ति शर्ट पहनता है, तो वह दूसरों के लिए उपलब्ध नहीं होगी। ऐसा कहा जाता है कि इस व्यक्ति का उपभोग दूसरों के उपभोग के समानुपातिक होता है। हालाँकि, यदि हम किसी सार्वजनिक	3 3

	पार्क या वायु प्रदूषण कम करने के उपायों पर विचार करें, तो लाभ सभी को उपलब्ध होंगे। एक व्यक्ति द्वारा किसी वस्तु के उपभोग से दूसरों के उपभोग के लिए उपलब्ध मात्रा कम नहीं होती है और इसलिए कई लोग उसका लाभ उठा सकते हैं, अर्थात कई लोगों का उपभोग प्रतिद्वंद्वितापूर्ण नहीं होता है। दूसरा, निजी वस्तुओं के मामले में, जो कोई भी वस्तु के लिए भुगतान नहीं करता है, उसे उसके लाभों का आनंद लेने से वंचित किया जा सकता है। यदि आप टिकट नहीं खरीदते हैं, तो आपको स्थानीय सिनेमा हॉल में फिल्म देखने की अनुमति नहीं दी जाएगी। हालाँकि, सार्वजनिक वस्तुओं के मामले में किसी को भी वस्तुओं के लाभों का आनंद लेने से वंचित करने का कोई व्यवहार्य तरीका नहीं है। इसीलिए सार्वजनिक वस्तुओं को गैर-बहिष्कृत कहा जाता है। यदि कुछ उपयोगकर्ता भुगतान नहीं भी करते हैं, तो भी सार्वजनिक वस्तु के लिए शुल्क वसूलना मुश्किल और कभी-कभी असंभव होता है। इन भुगतान न करने वाले उपयोगकर्ताओं को 'मुफ्त-सवार' के रूप में जाना जाता है। उपभोक्ता स्वेच्छा से उस चीज़ के लिए भुगतान नहीं करेंगे जो उन्हें मुफ्त में मिल सकती है और जिसका आनंद लिया जा रहा है उस संपत्ति पर कोई विशेष अधिकार नहीं है। भुगतान प्रक्रिया के माध्यम से उत्पादक और उपभोक्ता के बीच संबंध टूट जाता है और सरकार को ऐसी वस्तुओं की व्यवस्था करने के लिए कदम उठाना चाहिए। दिए गए पाठ और सामान्य समझ के आधार पर निम्नलिखित प्रश्नों के उत्तर दीजिए: (a) वर्णन कीजिए कि सार्वजनिक वस्तुएँ प्रदान करने में सरकार की भूमिका सामुदायिक कल्याण को कैसे प्रभावित करती है। (ख) मुफ्तखोरों को परिभाषित कीजिए। सर्वप्रथम सार्वजनिक वस्तुओं के संदर्भ में मुफ्तखोरों द्वारा उत्पन्न चुनौतियों की व्याख्या कीजिए।	
--	--	--

Section B-Indian Economic Development

18.	Read the following statements carefully: Statement 1: Prior to 1921, India was in the first stage of demographic transition. Statement 2: From the year 1921 onwards, India's population never declined and recorded a consistent rise. In light of the given statements, choose the correct alternative from the following: - Statement 1 is true and Statement 2 is false. - Statement 1 is false and Statement 2 is true. - Both Statements 1 and 2 are true. - Both Statements 1 and 2 are false. निम्नलिखित कथनों को ध्यानपूर्वक पढ़ें: कथन 1: 1921 से पहले, भारत जनसांख्यिकीय परिवर्तन के प्रथम चरण में था। कथन 2: वर्ष 1921 के बाद से, भारत की जनसंख्या में कभी गिरावट नहीं आई और इसमें निरंतर वृद्धि दर्ज की गई। दिए गए कथनों के आधार पर, निम्नलिखित में से सही विकल्प चुनिए: - कथन 1 सत्य है और कथन 2 असत्य है। - कथन 1 असत्य है और कथन 2 सत्य है।	1
-----	---	---

	c. कथन 1 और 2 दोनों सत्य हैं। d. कथन 1 और 2 दोनों असत्य हैं।											
19.	Match the columns and chose the correct alternative. <table><tr><th>Column I</th><th>Column II</th></tr><tr><td>(a) 1982</td><td>i) Golden Revolution</td></tr><tr><td>(b) 1966</td><td>(ii) Green Revolution</td></tr><tr><td>(c) 1991</td><td>(iii) First Nationalization of Commercial banks in India</td></tr><tr><td>(d) 1969</td><td>(iv) NABARD</td></tr></table> Alternatives: a. (i) a, (ii) b, (iii) c, (iv) d b. (i) c, (ii) b, (iii) a, (iv) d c. (i) c, (ii) b, (iii) d, (iv) a d. (i) b, (ii) c, (iii) d, (iv) a स्तंभों का मिलान करें और सही विकल्प चुनें। स्तंभ I स्तंभ II (a) 1982 i) स्वर्णिम क्रांति (b) 1966 (ii) हरित क्रांति (c) 1991 (iii) भारत में वाणिज्यिक बैंकों का पहला राष्ट्रीयकरण (d) 1969 (iv) नाबार्ड विकल्प: a. (i) a, (ii) b, (iii) c, (iv) d b. (i) c, (ii) b, (iii) a, (iv) d c. (i) c, (ii) b, (iii) d, (iv) a d. (i) b, (ii) c, (iii) d, (iv) a	Column I	Column II	(a) 1982	i) Golden Revolution	(b) 1966	(ii) Green Revolution	(c) 1991	(iii) First Nationalization of Commercial banks in India	(d) 1969	(iv) NABARD	1
Column I	Column II											
(a) 1982	i) Golden Revolution											
(b) 1966	(ii) Green Revolution											
(c) 1991	(iii) First Nationalization of Commercial banks in India											
(d) 1969	(iv) NABARD											
20.	Read the following statements: Assertion (A) and Reason (R). Choose the correct option from those given below: Assertion (A): Expenditure on education is the most effective way of enhancing and enlarging the productive workforce in the country Reason (R): Monetary benefits of education far exceed the cost of education. Options: 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. निम्नलिखित कथनों को पढ़ें: अभिकथन (A) और कारण (R)। नीचे दिए गए विकल्पों में से सही विकल्प चुनें: अभिकथन (A): शिक्षा पर व्यय देश में उत्पादक कार्यबल को बढ़ाने और विस्तृत करने का सबसे प्रभावी तरीका है। कारण (R): शिक्षा के मौद्रिक लाभ, शिक्षा की लागत से कहीं अधिक हैं विकल्प: a. अभिकथन (A) और कारण (R) दोनों सत्य हैं और कारण (R), अभिकथन (A) की सही व्याख्या	1										

	है। b. अभिकथन (A) और कारण (R) दोनों सत्य हैं, लेकिन कारण (R), अभिकथन (A) की सही व्याख्या नहीं है। c. अभिकथन (A) सत्य है, लेकिन कारण (R) असत्य है। d. अभिकथन (A) असत्य है, लेकिन कारण (R) सत्य है।											
21.	_____ committee was set up for the development and promotion of Small scale industries in India. a. Karve b. Tapas Majumdar c. P. C. Mahalanobis d. TRYSEM भारत में लघु उद्योगों के विकास और संवर्धन के लिए _____ समिति की स्थापना की गई थी। a. कर्वे b. तपस मजूमदार c. पी. सी. महालनोबिस d. ट्राइसेम	1										
22.	 refers to a situation when the economy is able to produce more goods and services without a proportionate increase in employment opportunities. (Jobless growth/self-employment) उस स्थिति को संदर्भित करता है जब अर्थव्यवस्था रोज़गार के अवसरों में आनुपातिक वृद्धि के बिना अधिक वस्तुओं और सेवाओं का उत्पादन करने में सक्षम होती है। (बेरोज़गारी विहीन विकास/स्व-रोज़गार)	1										
23.	Arrange the following events in chronological order and choose the correct alternative: i. establishment of People’s Republic of China ii. 1st Five Year Plan of India iii. Creation of Pakistan iv. 1st Five Year Plan of China निम्नलिखित घटनाओं को कालानुक्रमिक क्रम में व्यवस्थित करें और सही विकल्प चुनें: i. चीन जनवादी गणराज्य की स्थापना ii. भारत की पहली पंचवर्षीय योजना iii. पाकिस्तान का निर्माण iv. चीन की पहली पंचवर्षीय योजना Alternatives: a. i, iv, ii, iii b. iii, ii, i, iv c. ii, i, iii, iv d. iv, iii, ii, i	1										
24.	On the basis of the information given below, answer the following question <table><tr><td>Employed</td><td>Frictional unemployed</td><td>Structurally unemployed</td><td>Cyclically unemployed</td><td>Not in labour force</td></tr><tr><td>1,70,000</td><td>10,000</td><td>5,000</td><td>5,000</td><td>1,00,000</td></tr></table> The number of labour force in the country is _____.	Employed	Frictional unemployed	Structurally unemployed	Cyclically unemployed	Not in labour force	1,70,000	10,000	5,000	5,000	1,00,000	1
Employed	Frictional unemployed	Structurally unemployed	Cyclically unemployed	Not in labour force								
1,70,000	10,000	5,000	5,000	1,00,000								

	a. 1,80,000 c. 1,95,000	b. 1,90,000 d. 2,00,000											
25.	Read the following statements carefully: Statement 1 - Global warming is the rise in average temperature of the earth's surface. Statement 2 - Development that protects the future generation even at the expenses of present generation. In light of the given statements, choose the correct alternative from the following: a. Both the statements are true. b. Both the statements are false. c. Statement 1 is true and statement 2 is false. d. Statement 1 is false and statement 2 is true. निम्नलिखित कथनों को ध्यानपूर्वक पढ़ें: कथन 1 - ग्लोबल वार्मिंग पृथ्वी की सतह के औसत तापमान में वृद्धि है। कथन 2 - विकास जो वर्तमान पीढ़ी की कीमत पर भी भावी पीढ़ी की रक्षा करता है। दिए गए कथनों के आधार पर, निम्नलिखित में से सही विकल्प चुनिए: a. दोनों कथन सत्य हैं। b. दोनों कथन असत्य हैं। c. कथन 1 सत्य है और कथन 2 असत्य है। d. कथन 1 असत्य है और कथन 2 सत्य है।		1										
26.	Read the following statements: Assertion (A) and Reason (R). Choose one of the correct alternatives. Assertion(A): India ranks first in the world in milk production. Reason (R): India's milk production increased due to Operation Flood. Options: a. Both Assertion (A) and Reason (R) are True and Reason (R) is the correct explanation of Assertion. b. Both Assertion (A) and Reason (R) are True and Reason (R) is not the correct explanation of Assertion c. Assertion (A) is True but Reason (R) is False. d. Assertion (A) is False but Reason (R) is True. निम्नलिखित कथनों को पढ़ें: अभिकथन (A) और कारण (R)। सही विकल्पों में से एक चुनें। अभिकथन (A): भारत दूध उत्पादन में विश्व में प्रथम स्थान पर है। कारण (R): ऑपरेशन फ्लड के कारण भारत का दूध उत्पादन बढ़ा। विकल्प: a. अभिकथन (A) और कारण (R) दोनों सत्य हैं और कारण (R) अभिकथन की सही व्याख्या है। b. अभिकथन (A) और कारण (R) दोनों सत्य हैं और कारण (R) अभिकथन की सही व्याख्या नहीं है। c. अभिकथन (A) सत्य है लेकिन कारण (R) असत्य है। d. अभिकथन (A) असत्य है लेकिन कारण (R) सत्य है।		1										
27.	Identify the Correctly Matched pair from the items in Column A and by matching them with the items in column B <table> <tr> <th>Column A</th><th>Column B</th></tr> <tr> <td>1.Environmental Degradation</td><td>a) Soil Erosion</td></tr> <tr> <td>2.Land Pollution</td><td>b) Future Use</td></tr> <tr> <td>3.Sustainable Development</td><td>c) Leads to Poverty</td></tr> <tr> <td>4.Air Pollution</td><td>d) Green House Gases</td></tr> </table> कॉलम A के मदों में से और कॉलम B के मदों से उनका मिलान करके सही मिलान वाले युग्म की पहचान कीजिए।	Column A	Column B	1.Environmental Degradation	a) Soil Erosion	2.Land Pollution	b) Future Use	3.Sustainable Development	c) Leads to Poverty	4.Air Pollution	d) Green House Gases		1
Column A	Column B												
1.Environmental Degradation	a) Soil Erosion												
2.Land Pollution	b) Future Use												
3.Sustainable Development	c) Leads to Poverty												
4.Air Pollution	d) Green House Gases												

	कॉलम A कॉलम B 1. पर्यावरण क्षरण (a) मृदा अपरदन 2. भूमि प्रदूषण (b) भविष्य में उपयोग 3. सतत विकास (c) गरीबी की ओर ले जाता है 4. वायु प्रदूषण (d) ग्रीन हाउस गैसों Alternatives: a. 1-a) b. 2-b) c. 3-c) d. 4-d)										
28.	“According to Aakriti, in this era of privatisation, there is no need for government intervention in the education and health sectors. However, her friend Sakshi is of the opinion that education and health care services create social benefits and therefore there is a need for government intervention”. From whom do you agree? Give valid reasons. आकृति के अनुसार, निजीकरण के इस दौर में शिक्षा और स्वास्थ्य क्षेत्र में सरकारी हस्तक्षेप की कोई आवश्यकता नहीं है। हालाँकि, उनकी मित्र साक्षी का मानना है कि शिक्षा और स्वास्थ्य सेवाएँ सामाजिक लाभ प्रदान करती हैं और इसलिए सरकारी हस्तक्षेप आवश्यक है। आप किससे सहमत हैं? उचित कारण बताइए।	3									
29.	Compare and analyse the given data of India and China with valid arguments. Annual Growth of Gross Domestic Product (%), 1980-2017 भारत और चीन के दिए गए आँकड़ों की तुलना और विश्लेषण मान्य तर्कों के साथ करें। सकल घरेलू उत्पाद की वार्षिक वृद्धि (%), 1980-2017 <table border="1"> <thead> <tr> <th>Country</th><th>1980-1990</th><th>2015-2017</th></tr> </thead> <tbody> <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> </tbody> </table> OR  Analyse the picture given above and explain which Chinese policy does it depict and its impact.	Country	1980-1990	2015-2017	India	5.7	7.3	China	10.3	6.8	3
Country	1980-1990	2015-2017									
India	5.7	7.3									
China	10.3	6.8									

	ऊपर दिए गए चित्र का विश्लेषण करें और बताएँ कि यह किस चीनी नीति को दर्शाता है और इसका क्या प्रभाव है।	
30.	“Prime minister urged to increase the rural income by increasing non-farm activities.” Explain how non-Farm activities can lead to rise in income of people in rural sector. “प्रधानमंत्री ने गैर-कृषि गतिविधियों को बढ़ाकर ग्रामीण आय बढ़ाने का आग्रह किया।” बताएँ कि गैर-कृषि गतिविधियाँ ग्रामीण क्षेत्र के लोगों की आय में किस प्रकार वृद्धि ला सकती हैं।	4
31.	“Economic Reforms were widely criticized because it neglected agricultural sector”. Do you agree with this statement? Write valid arguments. “आर्थिक सुधारों की व्यापक आलोचना हुई क्योंकि इनमें कृषि क्षेत्र की उपेक्षा की गई थी।” क्या आप इस कथन से सहमत हैं? मान्य तर्क लिखिए। OR “While subsidies encourage farmers to use new technology, they are a huge burden on government finances”. Discuss the usefulness of subsidies in the light of this fact. “हालांकि सब्सिडी किसानों को नई तकनीक का उपयोग करने के लिए प्रोत्साहित करती है, लेकिन वे सरकारी वित्त पर भारी बोझ हैं।” इस तथ्य के आलोक में सब्सिडी की उपयोगिता पर चर्चा कीजिए।	4
32.	Evaluate the various factors that led to the rapid growth in economic development in China. चीन में आर्थिक विकास में तीव्र वृद्धि के लिए जिम्मेदार विभिन्न कारकों का मूल्यांकन करें।	4
33.	a. “Government made a fresh statement of policy on the 30th April, 1956 which will help speeding up industrialisation and, in particular, to develop heavy industries and machine making industries, to expand the public sector, and to build up a large and growing co-operative sector”. क. “सरकार ने 30 अप्रैल, 1956 को नीति का एक नया वक्तव्य जारी किया, जो औद्योगीकरण को गति देने में मदद करेगा और विशेष रूप से भारी उद्योगों और मशीन बनाने वाले उद्योगों को विकसित करने, सार्वजनिक क्षेत्र का विस्तार करने और एक बड़े और बढ़ते सहकारी क्षेत्र का निर्माण करने में मदद करेगा।” In the light of the given text and common understanding, comment upon the classification of industries under the revised policy. b. “The implementation of land ceiling legislation in India encountered several challenges that hindered its effectiveness.” Do you agree with the given statement? Give valid reasons in support of your answer. दिए गए पाठ और सामान्य समझ के आधार पर, संशोधित नीति के अंतर्गत उद्योगों के वर्गीकरण पर टिप्पणी कीजिए। ख. “भारत में भूमि हदबंदी कानून के कार्यान्वयन में कई चुनौतियाँ आईं जिनसे इसकी प्रभावशीलता में बाधा आई।” क्या आप दिए गए कथन से सहमत हैं? अपने उत्तर के समर्थन में वैध कारण दीजिए। OR	3 3 4 2

	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. अथवा क. "उदारीकरण और निजीकरण के माध्यम से वैश्वीकरण की प्रक्रिया ने भारत के लिए सकारात्मक और नकारात्मक दोनों परिणाम उत्पन्न किए हैं।" क्या आप दिए गए कथन से सहमत हैं? अपने उत्तर के समर्थन में उचित स्पष्टीकरण दीजिए। ख. "भारत सरकार 1991 के आर्थिक सुधारों को लागू करने के लिए बाध्य थी।" 1991 के आर्थिक सुधारों को लागू करने के पीछे कोई दो कारण बताइए।	
34.	Read the following passage carefully and answer the given questions. Do you know how much the government spends on education? This expenditure by the government is expressed in two ways (i) as a percentage of 'total government expenditure' (ii) as a percentage of Gross Domestic Product (GDP). The percentage of 'education expenditure of total government expenditure' indicates the importance of education in the scheme of things before the government. The percentage of 'education expenditure of GDP' expresses how much of people's income is being committed to the development of education in the country. During 1952-2014, education expenditure as percentage of total government expenditure increased from 7.92 to 15.7 and as percentage of GDP increased from 0.64 to 4.13. Throughout this period the increase in education expenditure has not been uniform and there has been irregular rise and fall. To this if we include the private expenditure incurred by individuals and by philanthropic institutions, the total education expenditure should be much higher. Elementary education takes a major share of total education expenditure and the share of the higher/tertiary education (institutions of higher learning like colleges, polytechnics and universities) is the least. Though, on an average, the government spends less on tertiary education, 'expenditure per student' in tertiary education is higher than that of elementary. This does not mean that financial resources should be transferred from tertiary education to elementary education. As we expand school education, we need more teachers who are trained in the higher educational institutions; therefore, expenditure on all levels of education should be increased. In 2014-15, the per capita public expenditure on elementary education differs considerably across states from as high as Rs 34,651 in Himachal Pradesh to as low as Rs 4088 in Bihar. This leads to differences in educational opportunities and attainments across states. One can understand the inadequacy of the expenditure on education if we compare it with the desired level of education expenditure as recommended by the various commissions. About 55 years ago, the Education Commission (1964-66) had recommended that at least 6 per cent of GDP be spent on education so as to make a noticeable rate of growth in educational achievements. a. Expenditure in education plays significant role in Human Capital Formation? Explain. b. _____ recommended 6 percent of GDP to be spent on education? c. "Financial resources should be transferred from elementary education to higher education". Give your valid observations. निम्नलिखित गद्यांश को ध्यानपूर्वक पढ़ें और दिए गए प्रश्नों के उत्तर दें। क्या आप जानते हैं कि सरकार शिक्षा पर कितना खर्च करती है? सरकार द्वारा यह व्यय दो तरीकों से व्यक्त किया जाता है (i) 'कुल सरकारी व्यय' के प्रतिशत के रूप में (ii) सकल घरेलू उत्पाद (जीडीपी) के प्रतिशत के रूप में।	3 1 2

'कुल सरकारी व्यय का शिक्षा व्यय' का प्रतिशत सरकार के समक्ष योजनाओं में शिक्षा के महत्व को इंगित करता है। 'जीडीपी का शिक्षा व्यय' का प्रतिशत व्यक्त करता है कि देश में शिक्षा के विकास के लिए लोगों की आय का कितना हिस्सा समर्पित किया जा रहा है। 1952-2014 के दौरान, कुल सरकारी व्यय के प्रतिशत के रूप में शिक्षा व्यय 7.92 से बढ़कर 15.7 हो गया और जीडीपी के प्रतिशत के रूप में 0.64 से बढ़कर 4.13 हो गया। इस पूरी अवधि में शिक्षा व्यय में वृद्धि एक समान नहीं रही है और इसमें अनियमित वृद्धि और गिरावट रही है। इसमें यदि हम व्यक्तियों और परोपकारी संस्थानों द्वारा किए गए निजी व्यय को शामिल करें, तो कुल शिक्षा व्यय बहुत अधिक होना चाहिए।

प्रारंभिक शिक्षा कुल शिक्षा व्यय का एक बड़ा हिस्सा लेती है और उच्च/तृतीयक शिक्षा (कॉलेज, पॉलिटेक्निक और विश्वविद्यालय जैसे उच्च शिक्षण संस्थान) का हिस्सा सबसे कम है। हालाँकि, औसतन, सरकार तृतीयक शिक्षा पर कम खर्च करती है, लेकिन तृतीयक शिक्षा में 'प्रति छात्र व्यय' प्राथमिक शिक्षा की तुलना में अधिक है। इसका अर्थ यह नहीं है कि वित्तीय संसाधनों को तृतीयक शिक्षा से प्रारंभिक शिक्षा में स्थानांतरित किया जाना चाहिए। जैसे-जैसे हम स्कूली शिक्षा का विस्तार कर रहे हैं, हमें उच्च शिक्षण संस्थानों में प्रशिक्षित अधिक शिक्षकों की आवश्यकता है; इसलिए, शिक्षा के सभी स्तरों पर व्यय बढ़ाया जाना चाहिए।

2014-15 में, प्रारंभिक शिक्षा पर प्रति व्यक्ति सार्वजनिक व्यय राज्यों में काफी भिन्न है, हिमाचल प्रदेश में यह 34,651 रुपये से लेकर बिहार में 4088 रुपये तक है। इससे राज्यों में शैक्षिक अवसरों और उपलब्धियों में अंतर आता है।

शिक्षा पर व्यय की अपर्याप्तता को हम विभिन्न आयोगों द्वारा अनुशंसित शिक्षा व्यय के वांछित स्तर से तुलना करके समझ सकते हैं। लगभग 55 वर्ष पूर्व, शिक्षा आयोग (1964-66) ने सिफारिश की थी कि शैक्षिक उपलब्धियों में उल्लेखनीय वृद्धि दर प्राप्त करने के लिए सकल घरेलू उत्पाद का कम से कम 6 प्रतिशत शिक्षा पर खर्च किया जाना चाहिए।

क. क्या शिक्षा पर व्यय मानव पूंजी निर्माण में महत्वपूर्ण भूमिका निभाता है? व्याख्या कीजिए।

ख. किसने शिक्षा पर सकल घरेलू उत्पाद का 6 प्रतिशत खर्च करने की सिफारिश की?

ग. "वित्तीय संसाधनों को प्रारंभिक शिक्षा से उच्च शिक्षा में स्थानांतरित किया जाना चाहिए"। अपने मान्य अवलोकन दीजिए।

KENDRIYA VIDYALAYA SANGATHAN RANCHI REGION
PRE BOARD EXAMINATION 2025-26

CLASS : XII
SUBJECT: INFORMATICS PRACTICES (065)

TIME:3 HRS
M.M.70

General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A have 21 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 02 questions carrying 04 marks each.
7. Section E has 03 Long Answer type questions carrying 05 marks each.
8. All programming questions are to be answered using Python Language only

	PART A	
1	The read_csv() function in Pandas is used to: (A) Create a new DataFrame (B) Save DataFrame to CSV (C) Read data from a CSV file (D) Rename columns	1
2	Which SQL command is used to remove a table permanently from a database? (A) DROP (B) DELETE (C) REMOVE (D) CLEAR	1
3	When two Pandas Series are concatenated with different indices, the resulting index will be: (A) Reset (B) Union of both (C) Only common (D) Error	1
4	In India, the primary law that deals e-commerce and cybercrime is _____. (A) Cybercrime Prevention Act, 2000 (B) Digital Security Act, 2000 (C) Information Technology Act, 2000 (D) E-Commerce Regulation Act, 2008	1
5	Which of the following is NOT a DML command? (A) INSERT (B) UPDATE (C) DELETE (D) CREATE	1
6	The correct Python statement to find the first three rows of DataFrame df is: (A) df.head(3) (B) df.tail(3) (C) df.loc[:3] (D) df.iloc[3:]	1
7	In a relational database, foreign key is used to: (A) Create index (B) Link tables (C) Store unique values (D) Define primary key	1
8	Which function returns the length of a string in SQL? (A) SIZE() (B) LEN() (C) LENGTH() (D) CHARCOUNT()	1
9	The term “Data Redundancy” refers to: (A) Incomplete data (B) Repetition of data (C) Missing data (D) Secured data	1
10	Identify the protocol used for sending emails: (A) SMTP (B) NNTP (C) HTTP (D) FTP	1
11	The NaN in Pandas stands for: (A) Null and None (B) Not a Name (C) Not a Number (D) Numeric and Null	1
12	Which of the following is a cyber-safety measure ? (A) Sharing passwords (B) Clicking unknown links (C) Using strong passwords (D) Disabling antivirus	1
13	Which SQL function is used to find the highest value in a column? (A) MAX() (B) UPPER() (C) COUNT() (D) SUM()	1
14	Which Pandas attribute gives the number of rows and columns in a DataFrame? (A) shape (B) size (C) count() (D) length()	1
15	Identify the transmission medium that uses light signals: (A) Coaxial cable (B) Optical fiber (C) Twisted pair (D) Infrared waves	1
16	Which of the following Python statements will create an empty Series? (A) pd.Series([]) (B) pd.Series(None) (C) pd.Series() (D) Both (A) and (C)	1
17	Which SQL clause is used to remove duplicate rows in output? (A) DISTINCT (B) UNIQUE (C) GROUP BY (D) CLEAN	1

18	Which of the following is not an example of e-waste? (A) Mobile phone (B) Plastic bottle (C) Hard disk (D) Keyboard	1																																				
19	The device used to connect networks with different protocols together is: (A) Hub (B) Switch (C) Router (D) Bridge	1																																				
20	Assertion (A): Primary key ensures entity integrity. Reason (R): Primary key allows duplicate and NULL values. (A) Both A and R are True, R explains A (B) Both A and R are True, R does not explain A (C) A is True, R is False (D) A is False, R is True	1																																				
21	Assertion (A): In Pandas, iloc is used for label-based indexing. Reason (R): iloc uses integer-based positional indexing. (A) Both A and R are True, R explains A (B) Both A and R are True, R does not explain A (C) A is True, R is False (D) A is False, R is True	1																																				
	PART B																																					
22	Consider the following code snippet that is intended to create a Pandas DataFrame and display its contents: import pandas as pd data = [10, 20, 30, 40] ser = pd.Series(data, index= ['a', 'b', 'c', 'd']) a) What is the output of series when printed? b) How can you access the value associated with the index 'c' in this Series? OR a) Complete the Python code to get the output: "Gandhinagar": import pandas as pd states = {1: 'Panaji', 2: 'Mumbai', 3: 'Gandhinagar', 4: 'Patna', 5: 'Ranchi'} series = pd.Series(states) print(series[_____]) b) What output is achieved by the command print(series[2:4])	2																																				
23	What is e-waste? Mention any one impact of e-waste on the environment.	2																																				
24	Priya has set up a computer lab in her school. She wants all the computers to share the same printer and access common study materials. Explain how a network can help Priya achieve this and describe the roles of servers and nodes in her setup. Question: • What resources can be shared in a network, and how does each computer become connected? • What is the difference between a server and a node? OR What is a gateway ? How is it different from a router ?	2																																				
25	TABLE : ITEM <table><tr><th>CODE</th><th>INAME</th><th>PRICE</th><th>CATEGORY</th></tr><tr><td>ABX123</td><td>MIXER GRINDER</td><td>1500</td><td>KITCHEN</td></tr><tr><td>NDP234</td><td>GEYSER</td><td>8000</td><td>BATHROOM</td></tr><tr><td>MDW876</td><td>GAS STOVE</td><td>6000</td><td>KITCHEN</td></tr><tr><td>LKJ987</td><td>ELECTRIC FAN</td><td>1200</td><td>ROOM</td></tr><tr><td>POD492</td><td>FAUCET</td><td>500</td><td>BATHROOM</td></tr><tr><td>EDF739</td><td>WATER HEATER</td><td>1700</td><td>BATHROOM</td></tr><tr><td>JSD587</td><td>CHANDELIER</td><td>5500</td><td>ROOM</td></tr><tr><td>TYU258</td><td>PRESSURE COOKER</td><td>1300</td><td>KITCHEN</td></tr></table> Write SQL to display the Total price of all items CATEGORY WISE. Also give the output of your command	CODE	INAME	PRICE	CATEGORY	ABX123	MIXER GRINDER	1500	KITCHEN	NDP234	GEYSER	8000	BATHROOM	MDW876	GAS STOVE	6000	KITCHEN	LKJ987	ELECTRIC FAN	1200	ROOM	POD492	FAUCET	500	BATHROOM	EDF739	WATER HEATER	1700	BATHROOM	JSD587	CHANDELIER	5500	ROOM	TYU258	PRESSURE COOKER	1300	KITCHEN	2
CODE	INAME	PRICE	CATEGORY																																			
ABX123	MIXER GRINDER	1500	KITCHEN																																			
NDP234	GEYSER	8000	BATHROOM																																			
MDW876	GAS STOVE	6000	KITCHEN																																			
LKJ987	ELECTRIC FAN	1200	ROOM																																			
POD492	FAUCET	500	BATHROOM																																			
EDF739	WATER HEATER	1700	BATHROOM																																			
JSD587	CHANDELIER	5500	ROOM																																			
TYU258	PRESSURE COOKER	1300	KITCHEN																																			

26	Consider the DataFrame “DF” given below and answer the questions that follow: <table><tr><td></td><td>A</td><td>B</td><td>C</td></tr><tr><td>101</td><td>5</td><td>6</td><td>7</td></tr><tr><td>102</td><td>8</td><td>9</td><td>6</td></tr><tr><td>103</td><td>5</td><td>8</td><td>3</td></tr><tr><td>104</td><td>5</td><td>7</td><td>9</td></tr></table> a) What is the shape of the DataFrame b) Write command to extract the index of the DataFrame		A	B	C	101	5	6	7	102	8	9	6	103	5	8	3	104	5	7	9	2										
	A	B	C																													
101	5	6	7																													
102	8	9	6																													
103	5	8	3																													
104	5	7	9																													
27	What is phishing ? Mention one precaution against it.	2																														
28	Given below are two series S1 and S2. Find the output of the commands given below: <table><tr><td colspan="2">S1</td><td colspan="2">S2</td></tr><tr><td>P1</td><td>25</td><td>P1</td><td>45</td></tr><tr><td>P2</td><td>14</td><td>P3</td><td>78</td></tr><tr><td>P4</td><td>87</td><td>P4</td><td>92</td></tr><tr><td>P5</td><td>96</td><td>P5</td><td>34</td></tr></table> a) S1 + S2 b) S1 // S2 OR Consider the following code and find the output: <pre>import pandas as pd data = {'Fruit': ['Apple', 'Mango', 'Banana'], 'Price': [80, 60, 40]} df = pd.DataFrame(data) df['Discount'] = [5, 10, 0] print(df.iloc[1])</pre>	S1		S2		P1	25	P1	45	P2	14	P3	78	P4	87	P4	92	P5	96	P5	34	2										
S1		S2																														
P1	25	P1	45																													
P2	14	P3	78																													
P4	87	P4	92																													
P5	96	P5	34																													
	PART C																															
29	Scenario: Aditi, a young graphic designer, has created a unique company logo and slogan for her client. A few months later, she discovers that another firm has started using a similar logo and tagline for their products. Questions: I. Explain the term Intellectual Property and Intellectual Property Rights (IPR) in context of Aditi’s situation. II. Identify the category of IPR that protects Aditi’s creative work. III. Briefly describe why protecting such creations is important for brand identity and business reputation.	3																														
30	Create a DataFrame in Python from the given list: [[‘Divya’, ‘HR’, 95000], [‘Mamta’, ‘Marketing’, 97000], [‘Payal’, ‘IT’, 980000], [‘Deepak’, ‘Sales’, 79000]]. Also give appropriate column headings as shown below: Write code to display the all information of Department HR and IT <table><tr><td></td><td>Name</td><td>Department</td><td>Salary</td></tr><tr><td>0</td><td>Divya</td><td>HR</td><td>95000</td></tr><tr><td>1</td><td>Mamta</td><td>Marketing</td><td>97000</td></tr><tr><td>2</td><td>Payal</td><td>IT</td><td>980000</td></tr><tr><td>3</td><td>Deepak</td><td>Sales</td><td>79000</td></tr></table> OR Write a Python program to create a Pandas DataFrame for student data given below and display names of students who scored more than 80 marks: <table><tr><td>Name</td><td>Marks</td></tr><tr><td>Arjun</td><td>75</td></tr><tr><td>Meera</td><td>88</td></tr><tr><td>Priya</td><td>91</td></tr><tr><td>Aditya</td><td>67</td></tr></table>		Name	Department	Salary	0	Divya	HR	95000	1	Mamta	Marketing	97000	2	Payal	IT	980000	3	Deepak	Sales	79000	Name	Marks	Arjun	75	Meera	88	Priya	91	Aditya	67	2+1 = 3
	Name	Department	Salary																													
0	Divya	HR	95000																													
1	Mamta	Marketing	97000																													
2	Payal	IT	980000																													
3	Deepak	Sales	79000																													
Name	Marks																															
Arjun	75																															
Meera	88																															
Priya	91																															
Aditya	67																															

31	In a table “STUDENT” given below, write commands for the questions that follow. <table><tr><th>ID</th><th>NAME</th><th>COURSE</th><th>GRADE</th></tr><tr><td>1</td><td>ANKITA</td><td>MCA</td><td>A</td></tr><tr><td>2</td><td>RAJNI</td><td>BCA</td><td>B</td></tr><tr><td>3</td><td>ANJALI</td><td>BBA</td><td>A</td></tr><tr><td>4</td><td>ROHINI</td><td>MEd</td><td>B</td></tr><tr><td>5</td><td>SIMRAN</td><td>BEd</td><td>B</td></tr></table> a) Write a SQL command to insert a new record with any dummy or appropriate values. b) Write a SQL command to change the GRADE of RAJNI from ‘B’ to ‘A’ c) Write a SQL command to remove the record of ANJALI	ID	NAME	COURSE	GRADE	1	ANKITA	MCA	A	2	RAJNI	BCA	B	3	ANJALI	BBA	A	4	ROHINI	MEd	B	5	SIMRAN	BEd	B	3																							
ID	NAME	COURSE	GRADE																																														
1	ANKITA	MCA	A																																														
2	RAJNI	BCA	B																																														
3	ANJALI	BBA	A																																														
4	ROHINI	MEd	B																																														
5	SIMRAN	BEd	B																																														
32	Consider the tables given below and write commands. TABLE : MEMBER <table><tr><th>MemNo</th><th>MemName</th><th>MemDept</th></tr><tr><td>1</td><td>Jaya</td><td>10</td></tr><tr><td>2</td><td>Jayanti</td><td>20</td></tr><tr><td>3</td><td>Jasmine</td><td>10</td></tr><tr><td>4</td><td>Jyotsna</td><td>30</td></tr></table> TABLE : DEPARTMENT <table><tr><th>DeptId</th><th>DeptName</th></tr><tr><td>10</td><td>PHYSICS</td></tr><tr><td>20</td><td>CHEMISTRY</td></tr><tr><td>30</td><td>BIOLOGY</td></tr></table> a) Write SQL command to display the Member Name and Department Name b) How many records are created by the Cartesian Product of the two tables. c) What is the Cardinality and Degree of the table Member. OR Consider the tables below: Table: CUSTOMER <table><tr><th>CID</th><th>Name</th><th>City</th></tr><tr><td>1</td><td>Aman</td><td>Delhi</td></tr><tr><td>2</td><td>Reema</td><td>Pune</td></tr><tr><td>3</td><td>Sohan</td><td>Delhi</td></tr></table> Table: ORDERS <table><tr><th>OID</th><th>CID</th><th>Amount</th></tr><tr><td>101</td><td>1</td><td>2500</td></tr><tr><td>102</td><td>2</td><td>1800</td></tr><tr><td>103</td><td>3</td><td>2200</td></tr></table> Write SQL queries to: I. Display names of customers from Delhi. II. Display names of customers with order amount > 2000. III. Display customer names with their order amount using a join.	MemNo	MemName	MemDept	1	Jaya	10	2	Jayanti	20	3	Jasmine	10	4	Jyotsna	30	DeptId	DeptName	10	PHYSICS	20	CHEMISTRY	30	BIOLOGY	CID	Name	City	1	Aman	Delhi	2	Reema	Pune	3	Sohan	Delhi	OID	CID	Amount	101	1	2500	102	2	1800	103	3	2200	3
MemNo	MemName	MemDept																																															
1	Jaya	10																																															
2	Jayanti	20																																															
3	Jasmine	10																																															
4	Jyotsna	30																																															
DeptId	DeptName																																																
10	PHYSICS																																																
20	CHEMISTRY																																																
30	BIOLOGY																																																
CID	Name	City																																															
1	Aman	Delhi																																															
2	Reema	Pune																																															
3	Sohan	Delhi																																															
OID	CID	Amount																																															
101	1	2500																																															
102	2	1800																																															
103	3	2200																																															
	PART D																																																
33	The marks of 20 students in economics are given below: Marks = [54,79,91,53,51,74,97,76,58,61,77,98,86,72,61,72,94,72,71,83] Write suitable Python code to generate a histogram based on the given data, along with an appropriate chart title and both axis labels. * Take 5 as the number of intervals for the Histogram. * Provide a chart heading “GRAPH” * Provide suitable name for X Axis and Y Axis	4																																															

	* Provide suitable command to save the graph																																									
34	Consider the following table STUDENT: <table><tr><th>SID</th><th>Name</th><th>Marks</th><th>City</th></tr><tr><td>101</td><td>Aarav</td><td>85</td><td>Delhi</td></tr><tr><td>102</td><td>Riya</td><td>72</td><td>Mumbai</td></tr><tr><td>103</td><td>Manav</td><td>90</td><td>Delhi</td></tr><tr><td>104</td><td>Tanu</td><td>65</td><td>Pune</td></tr></table> Write SQL queries for the following: I. Display the average marks of students. II. Display names in uppercase. III. Show names and cities of students with marks > 70. IV. Display city-wise count of students. OR Give the outputs. Table: Employee <table><tr><th>emp_id</th><th>emp_name</th><th>salary</th><th>join_date</th></tr><tr><td>101</td><td>Alice</td><td>3535.75</td><td>2023-01-15</td></tr><tr><td>102</td><td>Bob</td><td>4572.25</td><td>2022-12-10</td></tr><tr><td>103</td><td>Charlie</td><td>4089.00</td><td>2021-11-05</td></tr><tr><td>104</td><td>Diana</td><td>4260.50</td><td>2024-03-22</td></tr></table> 1. Query: SELECT emp_name, ROUND(salary, -1) FROM Employee; 2. Query: SELECT emp_name, MOD(emp_id, 2) AS mod_val FROM Employee;. 3. Query: SELECT UCASE(emp_name) AS upper_name FROM Employee; 4. Query: SELECT emp_name, MONTH(join_date) AS join_month FROM Employee;	SID	Name	Marks	City	101	Aarav	85	Delhi	102	Riya	72	Mumbai	103	Manav	90	Delhi	104	Tanu	65	Pune	emp_id	emp_name	salary	join_date	101	Alice	3535.75	2023-01-15	102	Bob	4572.25	2022-12-10	103	Charlie	4089.00	2021-11-05	104	Diana	4260.50	2024-03-22	4
SID	Name	Marks	City																																							
101	Aarav	85	Delhi																																							
102	Riya	72	Mumbai																																							
103	Manav	90	Delhi																																							
104	Tanu	65	Pune																																							
emp_id	emp_name	salary	join_date																																							
101	Alice	3535.75	2023-01-15																																							
102	Bob	4572.25	2022-12-10																																							
103	Charlie	4089.00	2021-11-05																																							
104	Diana	4260.50	2024-03-22																																							
	PART E																																									
35	XYZ Ltd. has offices in Chennai (Head Office) and Kolkata (Branch). Within Chennai office there are four departments: HR, Sales, Production, and Accounts. Chennai (Head Office) HR Sales Production Accounts Kolkata (Branch) Distances between departments are: HR–Sales: 40m HR–Production: 60m HR–Accounts: 70m Sales–Production: 30m Sales—Accounts: 25m Production–Accounts: 20m Chennai– Kolkata: 1667km Number of computers: HR – 50, Sales – 25, Production – 60.	5																																								

	Accounts – 20, Kolkata – 40 Answer the following: I. Suggest the department to install the server. Give reason. II. Draw a suitable cable layout for Chennai office. III. Suggest network devices for interconnecting computers in each department. IV. Identify the type of network (LAN/MAN/WAN) used to connect Chennai and Kolkata. V. Suggest a device to boost signal strength in long cables.																																																													
36	Consider the following DataFrame df: <table><tr><th>Product</th><th>Category</th><th>Price</th></tr><tr><td>Laptop</td><td>Electronics</td><td>80000</td></tr><tr><td>Chair</td><td>Furniture</td><td>4500</td></tr><tr><td>Pen</td><td>Stationery</td><td>50</td></tr><tr><td>Phone</td><td>Electronics</td><td>30000</td></tr></table> Write Python statements to: I. Display only Product and Price columns. II. Add a column Discount with values [10, 5, 0, 8]. III. Display records where Category is “Electronics”. IV. Delete the column Category. V. Rename column Price to Cost.	Product	Category	Price	Laptop	Electronics	80000	Chair	Furniture	4500	Pen	Stationery	50	Phone	Electronics	30000	5																																													
Product	Category	Price																																																												
Laptop	Electronics	80000																																																												
Chair	Furniture	4500																																																												
Pen	Stationery	50																																																												
Phone	Electronics	30000																																																												
37	Consider the table given below : Write SQL queries for (a) to (e) (TABLE : SALESPERSON) <table><tr><th>SID</th><th>NAME</th><th>PHONE</th><th>DOB</th><th>SALARY</th><th>AREA</th></tr><tr><td>S101</td><td>Amit Kumar</td><td>98101789654</td><td>1967-01-23</td><td>67000.00</td><td>North</td></tr><tr><td>S102</td><td>Deepika Sharma</td><td>99104567834</td><td>1992-09-23</td><td>32000.00</td><td>South</td></tr><tr><td>S103</td><td>Vinay Srivastav</td><td></td><td>1991-06-27</td><td>35000.00</td><td>West</td></tr><tr><td>S104</td><td>Kumar Mehta</td><td>88675345789</td><td>1967-10-16</td><td>40000.00</td><td>East</td></tr><tr><td>S105</td><td>Rashmi Kumar</td><td>98101567434</td><td>1972-09-20</td><td>50000.00</td><td>South</td></tr><tr><td>S106</td><td>Anil Kumar</td><td>65493483158</td><td>1968-02-02</td><td>42000.00</td><td>South</td></tr><tr><td>S107</td><td>Kumari Shreya</td><td>13488438432</td><td>1970-11-15</td><td>65000.00</td><td>East</td></tr><tr><td>S108</td><td>Atulya Kumar</td><td>55464482482</td><td>1989-12-15</td><td>25000.00</td><td>West</td></tr><tr><td>S109</td><td>Ranvir Yadav</td><td>74613743834</td><td>1986-01-05</td><td>57000.00</td><td>North</td></tr></table> a) To display Names of Salespersons and their Salaries who have salaries in the range 30000.00 to 40000.00 b) To list Names, Phone numbers and DOB (Date of Birth) of Salespersons who were born before 1st November, 1992. c) To display Names of Salespersons who have the word ‘Kumar’ anywhere in their names in ascending order of salary. d) To display the Name, DOB and Salary where Phone Number has not been entered. e) To display the records of all salesman who have their working areas in “North” and “South”. OR Write suitable SQL query for the following: a) To display the total number of characters in the string “ InformationTechnology ”. b) Find the position of the first occurrence of the letter 'e' in the column Emp_Name of the Employee table. c) Calculate the cube of the value stored in the column Marks of the Student table. d) To display the average marks from the Score column of the Exam table e) Display the total sum of Price from the Price column of the Items table.	SID	NAME	PHONE	DOB	SALARY	AREA	S101	Amit Kumar	98101789654	1967-01-23	67000.00	North	S102	Deepika Sharma	99104567834	1992-09-23	32000.00	South	S103	Vinay Srivastav		1991-06-27	35000.00	West	S104	Kumar Mehta	88675345789	1967-10-16	40000.00	East	S105	Rashmi Kumar	98101567434	1972-09-20	50000.00	South	S106	Anil Kumar	65493483158	1968-02-02	42000.00	South	S107	Kumari Shreya	13488438432	1970-11-15	65000.00	East	S108	Atulya Kumar	55464482482	1989-12-15	25000.00	West	S109	Ranvir Yadav	74613743834	1986-01-05	57000.00	North	5
SID	NAME	PHONE	DOB	SALARY	AREA																																																									
S101	Amit Kumar	98101789654	1967-01-23	67000.00	North																																																									
S102	Deepika Sharma	99104567834	1992-09-23	32000.00	South																																																									
S103	Vinay Srivastav		1991-06-27	35000.00	West																																																									
S104	Kumar Mehta	88675345789	1967-10-16	40000.00	East																																																									
S105	Rashmi Kumar	98101567434	1972-09-20	50000.00	South																																																									
S106	Anil Kumar	65493483158	1968-02-02	42000.00	South																																																									
S107	Kumari Shreya	13488438432	1970-11-15	65000.00	East																																																									
S108	Atulya Kumar	55464482482	1989-12-15	25000.00	West																																																									
S109	Ranvir Yadav	74613743834	1986-01-05	57000.00	North																																																									