HOLIDAY HOMEWORK (AUTUMN BREAK)
CLASS - I

Homework for Autumn Break

Instructions:

- Do all the questions in your respective subject notebooks
- All the work must be done in neat & clean handwriting

SUBJECT: MATHS-

1. Write reverse counting from 100 to 1

2. Draw atleast 10 patterns with colours, alphabets & numbers

3. Solve 20 questions of addition & substraction having 2 digits of your choice

4. Make a clock with the help of cardboard & chart paper

5. Write the table of 2&3

SUBJECT:HINDI

१. अपने बारे में 5 वाक्य लिखें।

२. वर्ष के सभी महीनों के नाम लिखे।

३. सप्ताह में आने वाले सभी दिनों के नाम क्रमानुसार लिखे।

४. 1 से 20 तक की गिनती हिंदी में लिखें।

५. हिंदी वर्णमाला में सभी वर्णों से बनने वाले शब्दों का चित्र एवं नाम लिखे।

SUBJECT: ENGLISH-

Q1.Write five sentences about yourself.

Q2.Make a video on the given reading passage and send it to the English teacher 's phone number -9101244340.

First take out the print and then read. Ask your parents to take video of it.

My name is Larry. Today is my first day in school. I am feeling very scared now. I am going to the school by bus. I met Kate in the bus. She is very sweet. She is my friend now.

Q3.Read and write 8 times each of the given sentences as handwriting:-

1. I go to school every day.

2.I have many friends at school.

3.My teachers are very good.

Q4.Draw a picture of your favourite animal and name it

SUBJECT:EVS-

1. Pluck 5 different shapes of leaves and paste it in your EVS notebook.

2. Plant a saplings at your garden and click the photograph and paste it in your EVS notebook.

3. Draw or paste 5 fruits ,5 flowers and 5 vegetables with their names in your EVS notebook.

CLASS - II

Homework for Autumn Break

Instructions:

- Do all the questions in your respective subject notebooks
- All the work must be done in neat & clean handwriting

SUBJECT: ENGLISH-

1. Write one page handwriting daily in your notebook.

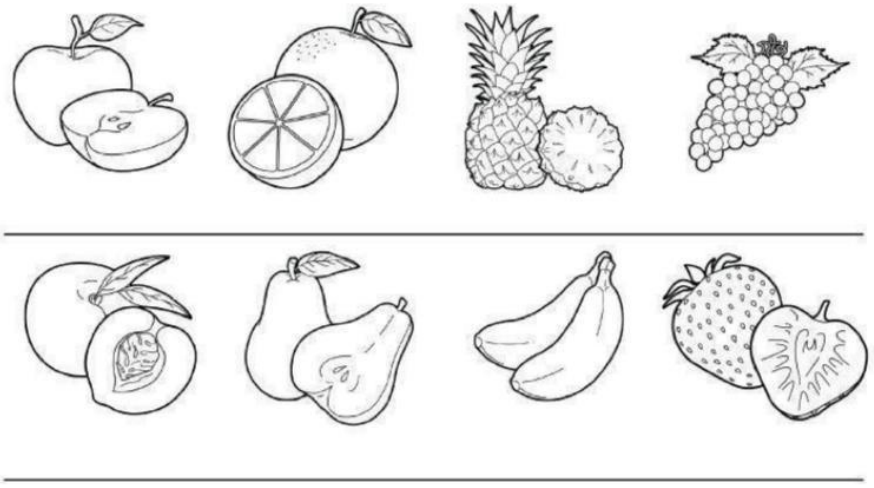
2. Make a collage of festival you celebrate at your home and write Four sentences about it.

3.

fruit word search

1. Write the name of the fruit in the space provided.
2. Find the word in the word search puzzle.
(Words only run across and down.)

s	t	r	a	w	b	e	r	r	y
o	r	a	n	j	e	p	e	a	r
r	m	e	h	o	a	e	w	n	a
a	b	a	b	a	n	a	n	a	p
n	x	p	a	i	r	c	e	y	p
g	r	a	p	e	s	h	k	a	l
e	p	i	n	e	a	p	p	l	e



4. Make a card on 'HAPPY DIWALI' Write 5 sentences about Diwali in your notebook.

5. Write 5 sentences on how you spent your holidays.

SUBJECT:HINDI

1. हिंदी वर्णमाला को पांच बार लिखे व याद करे।
2. पाठ 16 और 17 को पढ़ने का अभ्यास करें।
3. 10 पृष्ठ सुलेख लिखिए।
4. अपने प्रिय मित्र के ऊपर पांच पंक्तियाँ लिखिए।
5. दिन और महीनों के नाम हिंदी में लिखिए।
6. एक से 20 तक हिंदी में गिनती लिखिए.

SUBJECT: MATHS-

Que. 1. There are 24 hours in a day . We must do our work according to the time table . Draw the clock showing your daily routine .

Que 2. Write the number 1,2,3,4,5 ,6 on the points in the triangle , so that the addition of the numbers on each side of the figure is 12 .

Que 3. Draw any image with the help of any four shapes, colourit and write the name of used shapes in the image.

Que 4 . Write the counting 1 to 60 in words .

Que 5. Draw the calendar of November month (2024) and highlight all holidays of November Month .

Que. 6 write & Learn the table 2 to 20

Evs

Q1.Make a project on " Parts of plant" and label it .

Q2.Collect the pictures of different animals, paste and classify them on the basis of their habitat.

Q3.Write 5 sentences about your favourite pet and wild animal each.

Q4.Collect different types of leaves and use them in making different animal figures.Write their names also.

Q5. Write the names of 10 famous festivals of India and also write 2 or 3 lines about them

CLASS: lll A

(SESSION- 2024-2025)

Subject- EVS

Do all the questions in a separate notebook:-

1. Write the steps in of your daily routine according to datewise which you will follow during autumn break

2. Draw or paste the picture of your dream garden

3. Create a collage using recycled materials.

4. Draw & write a paragraph about your favourite season.

5. Write 5 sentences about the importance of cleanliness.

Subject - MATHS

Q1.WRITE AND LEARN MULTIPLICATION TABLES FROM 2TO 15.

Q2.MAKE A BALANCE USING WASTE MATERIALS.

Q3.DO ANY 5 ADDITIONS & SUBTRACTIONS WITH 3 DIGIT NUMBERS.

Q4.VISIT YOUR LOCAL MARKET & WRITE NAME OF THINGS YOU BOUGHT AND ALSO WRITE THEIR WEIGHT AGAINST EACH THING.

Q5.WRITE THE NAME OF DIFFERENT THINGS WHICH YOU MAY FIND FROM YOUR HOME/BACKYARD AND WRITE THEIR SHAPES.

Subject – ENGLISH

Q1.Read the newspaper or news from the TV. Write at least 2 news on daily basis and find out new words on it.Make use of those new words in framing a simple sentence .

Q2.Write few lines about how would you enjoyed the Autumn Break? Share your experience.

Q3.Make a project on "Adjective(describing word)".

Q4.Write 5 sentences about Rose by using the 5 different describing words(Adjective)

Q5.Daily practice to read at least one page of any text with correct pronunciation, expression and try to understand their meaning as well.

विषय- हिंदी

प्रश्न 1. दस त्योहारों से सम्बंधित चित्र चिपकाएँ व उनके नाम लिखिए |

प्रश्न 2. 'किताब' शब्द से शुरू करके स्कूल शब्द से समाप्त होने वाली तीस शब्दों की 'शब्द श्रंखला' बनाओ

प्रश्न 3 . अपने आस – पास पाए जाने वाले दो पेड़ों के बारे में 5 – 5 वाक्य लिखिए | उनका चित्र बनाकर रंग भरिये |

प्रश्न 4. 10 पेज सुलेख लिखिए |

प्रश्न 5. दस ऐसे फलो की सूची बनाये जिसमे अ , आ ,इ , ई , उ , ऊ , ए , ऐ की मात्रा आती हो उसका चित्र भी बनाये |

प्रश्न 6. विद्यालय , गुरूजी , छुट्टी , बन्दर , डंडा , पेड़ , केला , ताली , बच्चें , भूख |

इन शब्दों को पढ़कर आपके मन में कुछ बातें आई होगीं इन सब चीजों के बारे में एक छोटी सी कहानी बनाकर लिखिए|

PM SRI KENDRIYA VIDYALAYA AFS KUMBHIGRAM

AUTUMN BREAK HOLIDAY HOMEWORK

CLASS: lll B

(SESSION- 2024-2025)

Subject- EVS

Do all the questions in a separate notebook

1. Write the steps in of your daily routine according to datewise which you will follow during autumn break

2. Draw or paste the picture of your dream garden

3. Create a collage using recycled materials.

4. Draw & write a paragraph about your favourite season.

5. Write 5 sentences about the importance of cleanliness.

Subject - Maths

*Write and learn multiplication tables from 2to 15.

*Make a balance using waste materials.

*Do any 5 additions & subtractions with 3 digit numbers.

*Visit your local market & write name of things you bought and also write their weight against each thing.

*Write the name of different things which you may find from your home/backyard and write their shapes.

Subject – Hindi

प्रश्न 1. दस त्योहारों से सम्बंधित चित्र चिपकाएँ व उनके नाम लिखिए |

प्रश्न 2. 'किताब' शब्द से शुरू करके स्कूल शब्द से समाप्त होने वाली तीस शब्दों की 'शब्द श्रंखला' बनाओ

प्रश्न 3 . अपने आस – पास पाए जाने वाले दो पेड़ों के बारे में 5 – 5 वाक्य लिखिए | उनका चित्र बनाकर रंग भरिये |

प्रश्न 4. 10 पेज सुलेख लिखिए |

प्रश्न 5. दस ऐसे फलो की सूची बनाये जिसमे अ , आ ,इ , ई , उ , ऊ , ए , ऐ की मात्रा आती हो उसका चित्र भी बनाये |

प्रश्न 6. विद्यालय , गुरूजी , छुट्टी , बन्दर , डंडा , पेड़ , केला , ताली , बच्चें , भूख |

इन शब्दों को पढ़कर आपके मन में कुछ बातें आई होगीं इन सब चीजों के बारे में एक छोटी सी कहानी बनाकर लिखिए|

Subject – English

NEWSPAPER CUTTING

** Cut a news piece of your choice from any daily English newspaper of that day and paste it in your English notebook along with the date. The news can be any interesting national or international story or science, arts or sports related.

For example- Date- 8/10/24 – 1 newspaper cutting; Date-9/10/24- 1 newspaper cutting……etc.

(Note: The news pieces will be for each day, so, you'll be pasting 10 newspaper cuttings in total in your copy.)

LEARN A NEW WORD A DAY

**Learn 1 new word a day from an English dictionary and write the word along with the meaning in your English notebook. You'll learn 10 new words in total.

For example- Date- 8/10/24 – 1 new word; Date-9/10/24- 1 new word……etc

CREATIVE WRITING

**Write 5 lines about how you enjoyed your autumn break.

CRAFTING YOUR WAY

**Make a flower chart about pronouns with the help of chart papers, colourful papers, glitter papers, coloured pencils or sketch pens etc.

***Enjoy your holidays….. 😊🍁

PM SHRI KV AFS KUMBHIRGRAM

Homework for autumn break (2024- 2025)

CLASS - IV

(EVS)

Do all the questions in a separate notebook , preferably wherever chart is needed you can do there itself

1. Draw a well labelled diagram of water cycle

2. Write a short paragraph about importance of plants

3. Create a poster or chart showing the causes and effects of pollution

4. You have to do an activity or practical of sowing the seeds of 'gram or moong '& write down their everyday's growth datewise in a tabular form.

5. Make a list of famous items found in different states , also paste the pictures of those items

English

1. Write a short story on theme season(For example- Summer,Spring and Autumn)

2. Compose a poem related to theDussehra, Eid, Durga Puja.

3.Read the 'The scholar's tongue' and write it's summary and draw a picture.

4.Listen to your favourite advertisement and write five sentences about it.

5.Write five new words and their meanings from newspaper daily.

MATHEMATICS

1. Find the things from your surroundings which are different in shapes like circle, rectangle, square oval etc. and draw the picture with the name of object and shape.

2. Collect five wrappers and paste in your notebook. Write the manufacturing and expiry dates written on them.

3. Make some healthy snack that keep us fit and present it using geometrical shapes. Click the picture of the dish you have made and paste it in your notebook.

4. Make the calendar of the month October. Show all the holidays with different colours.

5. Go to market and buy some fruits and vegetables. Make a table and write the prices of 10 fruits/vegetables along with their quantity.

हिंदी

प्रश्न 1 नीचे दिए गए निर्देशों का पालन करते हुए एक चित्र बनाइये –

- चित्र में सबसे नीचे एक तालाब है

- तालाब में एक कमल का फूल है |
- तालाब में बत्तखें तैर रहीं हैं |
- तालाब के किनारे एक आम का पेड़ है |
- पेड़ पर एक चिड़िया बैठी है |

प्रश्न 2. नीचे दिए गए शब्दों का प्रयोग करते हुए एकवचन एवं बहुवचन का एक -एक उदाहरण लिखिए :-

पतंग , घंटी , झूला , सड़क , घडी

प्रश्न 3 . निम्नलिखित अक्षरों को सही क्रम में लिखकर सार्थक शब्द बनाइये :

ब चा गी =

न व धा सा =

गु ब ला =

रि वा प र =

प्रश्न 4. दशहरा क्यों मनाया जाता है उसके बारे में दस वाक्य लिखिए |

प्रश्न 5. बाल दिवस कब और क्यों मनाया जाता है , दस वाक्य लिखिए |

PM SHRI KENDRIYA VIDYALAYA AFS KUMBHIRGRAM

AUTUMN BREAK HOLIDAY HOMEWORK

SESSION – 2024-2025

CLASS-5

SUBJECT – ENGLISH

1. Read a story in your mother tongue and translate it and write it in your own way in English language. Paste the original story in your notebook.

2. Compose a poem on topic environment and write it and make a drawing related to that.

3. Read 'The talkative barber' and write one page of it as handwriting and its word meanings.

4. Write five sentences each by using:-

a)Nouns b)Adjectives

c)Verb d)Pronouns

5.Write five new words from Newspaper daily and write their meanings.

विषय– हिंदी

पाठन

1)गुरु और चेला कविता लिखो और याद करें।

2) चावल की रोटियां पाठ पढ़ें।

व्याकरण

पाठ में से व्याकरण का अभ्यास करें।।

सृजनात्मक लेखन

1. दशहरा त्योहार के बारे में अनुच्छेद लिखें।

2) दुर्गा पूजा त्योहार के बारे में 5 वाक्य लिखें।

3) दीवाली के त्योहार बारे में पांच वाक्य लिखें।

4) चावल से बनने वाले किसी एक व्यंजन की विधि लिखें।

लेखन

1. प्रतिदिन समाचार पत्र से एक समाचार लिखना।

2.एक पेज सुलेख रोज लिखें।

3.वर्तनी- प्रतिदिन प्रत्येक मात्रा का एक- एक लिखें।

परियोजना कार्य

त्योहारों के चित्र अपनी कॉपी में चिपकाए।

SUBJECT - EVS

- Read chapter 13 and 14.
- Read newspaper daily and paste five Sports News photos in your notebook.
- Write 5 safety rules.
- Draw or paste pictures of different houses and also write their names.
- Make a list of the names of mountaineers states and locate these states on the map of India.
- If you have ever visited any hill area then describe your trip.

SUBJECT – MATHS

1. Learn and practice multiplication table from 2 to20.
2. Draw a floor map of your classroom. Mention doors, windows and blackboard.
3. Make a deep drawing of the following –
   - i) Your maths book.
   - ii) Shoe box
4. Find the following product:
   - i) 2.6×8 = ?.
   - ii) 7.234×10=?
   - iii) 2.35×100=?
   - iv) 43.9×2= ?
   - v). 0.07×14=?
5. Draw the top view, side view and front view of a Table, a tent ,a flower pot and a car.

- Note- All the work of maths should be in your maths copy.

PM SHRI KENDRIYA VIDYALAYA AFS KUMBHIRGRAM

AUTUMN BREAK HOMEWORK (2024-2025)

Class:VI

Subject: Mathematics

Worksheet

1. Find any three numbers that are multiples of 25 but not multiples of 50.

2.What is the sum of first 15 odd numbers?

3. What happens when you multiply the triangular numbers by 6 and add

1? Which sequence do you get?

4.Find the smallest number that is a multiple of all the numbers from 1-

10 except 7.

5.What is the sum of the largest and smallest 5-digit palindrome? What

is their difference?

6.Priya and Smita collected data on how many students were present in

each class:

Class: I II III IV V

No. of students: 30 20 25 15 35

Draw a pictograph by taking 1 Δ= 5 students

7. Find the prime factorization of 64 and 104.

8. Find the remainders obtained when 2345 is divided by:

i. 10 ii. 3 iii. 5

9. Write one 5-digit number and two 3- digit numbers such that

their sum is 18670.

Activity

Draw the Ashoka Chakra.

The Ashoka Chakra has how many spokes? What is the degree

measure of the angles between two spokes next to each other?

What is the largest acute angle formed between two spokes?

Task

Learn tables till 20.

(SUBJECT -ENGLISH). Class -6

Reading Comprehension.
1.. Read a book of your choice (fiction/non-fiction) and submit a book review (150-200 words). 2. Answer the following questions based on the book. - Who is the main character?
-What lesson or message does the book convey?

Writing*.

1. Write a descriptive essay (150-200 words) on "My Favorite Season" (autumn, winter, spring, or Summer)

Grammar*

1. Fill in the blanks with correct forms of verbs (present/past/present perfect). - Yesterday, I _____ (go) to the park.
- By next year, I _____ (complete) my primary education.

2. Identify and correct errors in the following sentences:
- Me and my friend go to the movies.
- The teacher give us homework.

Vocabulary*

1. Learn and write meanings of 10 new vocabulary words related to autumn (e.g., harvest, foliage, cozy).
2. Use each word in a sentence.

Creative Writing

1. Write a poem (8-10 lines) about autumn.

CLASS –VI

SUBJECT - SST

Q 1. Read the passage and answer the following questions.

Stars are glowing ball of gases that spread out heat and light in space. They are actually huge but because they are so far away, they look like

tiny pinpoints of light to us. Constellation is group of stars that seem to form specific patterns are called constellations. Some constellations that are easily visible are Ursa Major (The great bear), Scorpio (Scorpion), and Orion (The Hunter). Constellations collectively form galaxies, while a million galaxies together make up the universe. The Milky Way is one such galaxy of which our solar system is a part.

(a) What are Stars?

(b) What is Constellation. Give two examples?

(c) Which galaxy is part of our solar system?

(d) How Universe formed?

Q2. How are economic activities different from non –economic activities?

Q3 How many hemispheres in earth divided. Write down its name and find out Which hemisphere holds more water?

Q4 Map skill:

Pacific Ocean

Africa Continent

Asia Continent

Indian Ocean

Q5. Write your state name and find three famous freedom fighter of your belonging state.

Q6. Which festival did you celebrate during this autumn holiday and write about how you celebrated it.

HAPPY HOLIDAY

Subject - Science

Class - VI

1.Collect some seeds around you and paste it on a file .Write its name,type and its uses(including: edible/non edible,health benefits,medicinal uses if any)

2. Mention some traditional methods of measurements and compare with the modern methods of measurements.

3.Write some important characteristics of magnets.

4.Write a short note on conservation of biodiversity.

PM SHRI KENDRIYA VIDYALAYA AFS KUMBHIRGRAM

Autumn break homework(2024-25)

Class- 7

SUBJECT- ENGLISH

1. Reading Comprehension:

a. Read any chapter from your textbook and write a summary in 200 words.

b. Read the passage and answer the questions.

Our ancestors had great difficulty in getting books. Now, our difficulty is what to read. There are books and books but our hours of reading are very few. Therefore, choice becomes essential. We should be very careful about what we read. There are books which poison our lives by suggesting evils. We should keep them at arm's length.

We should read only those books which have stood the test of time. Such books are our great classics like the Ramayana and the Gita. They contain the wisdom of our sages and saints. They have appealed mankind from generation to generation. Reading of such books has ennobling influence on our mind and character. It gives us spiritual enjoyment. These books give us instruction with entertainment. They represent our ancient culture. They set before us high ideals to follow. They are our best friends, best guides and the best treasure.

1. We should be selective because
   (a) there is a great number of books available to us
   (b) there is scarcity of books
   (c) there are only bad books in the market
   (d) none of the above.
2. We should avoid those books which
   (a) cost high price
   (b) come in paperback
   (c) corrupt our lives by suggesting evils
   (d) come in more than one volume.
3. The books which have stood the test of time are called….
   (a) great books (b) rare books (c) biographies (d) classics.
4. What is /are special quality/qualities of classics?
   (a) They affect our mind in a good way
   (b) They teach us something great and also entertain us.
   (c) They help us in our spiritual growth
   (d) All the above.
5. An expression in the passage which means 'good effect' is
   (a) Spiritual enjoyment (b) Ennobling influence
   (c) high ideals (d) Very careful.

2. Creative Writing:

Write a letter to your friend describing a special moment during the autumn break.

3. Article Writing:

Write an article on "How festivals bring people together." (150-200 words)

4. Vocabulary Building:

List 10 new words from "Expert Detectives" and use them in sentences.

5. Poetry Practice:

Write a paragraph explaining the theme of a poem you have studied this term.

ACTIVITY

Make a beautiful bookmark for your English notebook. Decorate it and write an inspirational quotation which inspires you.

SCIENCE

CLASS 7TH

1. Conduct observations and collect data on the environmental conditions (e.g., noise pollution, waste management, energy consumption, water usage) in your locality and compare the data before after a festival celebration. Write a report of findings and propose sustainable solutions to lessen the negative impacts and enhance the overall environmental situation.

2. Identify the types amounts of waste material collected with stagnant water in your backyard after rainfall. What are the potential environmental and health impacts of such waste materials. What remedies will you propose for such issues.

3. Learn the questions answers of the chapter Motion and time.

A) Give the basic unit of speed.

B) If Boojho covers a certain distance in one hour and Paheli covers the same distance in two hours, travels with a higher speed?

C) Determine the number of seconds there in a day.

D) How many hours are there in a year? Estimate.

E) A spaceship travels 36000 km in one hour. Express its speed in km/s.

F) Briefly mention how many types of motion are there. Also, name all of them.

Activity

4. Create a simple electric circuit with a switch, and show two states:

a) Switch ON: show the circuit when the switch is closed (ON)

b) Switch OFF: show the circuit when the switch is open (OFF)

CLASS –VII SUBJECT- MATHS

• Learn tables till 35 and do your work neatly.

ACTIVITIES:

•

What is Mean or Arithmetic mean? Write about it. Write the Minimum and Maximum temperature of your area from the newspaper or internet. Find Mean of 'Maximum' Temperatures and Minimum temperatures for 10 days.

or

•

Make a Rangoli Design using geometrical shapes only.

WORKSHEET (Write on A-4 Size sheet or a Notebook)

MCQ (Q1 TO Q6) :

1. subtracted from 7 gives

(a) – 9 (b) 5 (c) - 5 (d) 9

2. 5 added to – 5 gives

(a) 10 (b) - 10 (c) 0 (d) - 25

3. 3 taken away from 0 gives

(a) 3 (b) - 3 (c) 0 (d) not possible

4. Which of the following statement is true:

(a)2 subtracted from – 3 gives 1 (b) – 1 subtracted from – 5 gives 6

(c)3 subtracted from – 8 gives – 11 (d)1 subtracted from – 7 gives – 6

5. Which of the following numbers is to the right of -3 on number line ?

(a) -4 (b) -2 (c) -5 (d) -6

6. Which of the following number is not to the left of -10 on the number line ?

(a) -9 (b) - 11 (c) -12 (d) none of these

7. Fill in the blanks:

(a) (-55) + ___ = (-89)

(b) (-70) ÷ ___ = 5

(c) (-7) X (+2) = ___

(d) 86 – (- 47) = ___

8.Multiply and reduce to lowest form:

(a)

6012 × 25 (b) 21 × 57

9.Represent 3 kg 9 gm using decimals.

10.

Rose spends Rs. 56.78 for Science textbook and Rs. 82.35 for Maths text book. Find the total amount spend by Rose.

11. Find :(a) 0.3 × 1000 (b) 0.2 × 6 (c) 235.4 ÷ 10 (d) 9.75 ÷ 0.

12.Find the angle which is equal to its complement.

13. Find the angle which is equal to its supplement.

14.Out of 32 students, 8 are absent. What percent of the students are absent?

15. A survey of 40 children showed that 25% liked playing football. How many children liked

playing football?

CLASS VII

SUBJECT: SST

Q1. Read the passage below and answer the following question.

In a democracy the media plays a very important role in providing news and discussing event taking place in the country and the world. It is on the basis of this information that citizens can, for example, learn how government work. And often, if they wish to, they can

take action on the basis of these news stories. Some of the ways in which they can do this is by writing letters to the concerned minister organizing a public protest, starting a signature campaign, asking the government to rethink. Its programme, etc. Given the role that the media plays in providing information that the information be balanced. The fact is that if you had read either newspaper you would only know once side of the story. If you had read the News of India, you would most likely think of the protestors as a nuisance. There disrupting traffic and continually polluting the city with the factories leaves you with a bad impression about them. But on the other hand if you had read the story in the India Daily you would know that the protest are because a lot of livelihoods will be lost if the factories closed because the relocation efforts have not been adequate. Neither of these stories is a balanced report. A balance report is one that discusses all points of view of a particular story and then leaves it to the reader to make up their minds. Writing a balanced reports, however, depends on the media being independent. An independent media means no one should control and influence its coverage of news. No one should tell the media what can be included and what should not be included in news story. An independent media is important in a democracy. However, the reality is that media is far from independent. This is mainly because of two reasons. The first is the control that the government has on the media. When the government prevents either a news item, or scenes from a movie, or the lyrics of a song from being shared with the larger public, this is refereed as Censorship.

(a) What do you understand by Media ?

(b) How media play an important role in a democracy ?

(c) What is balance report ?

(d) What do you understand by independent media ?

(e) Describe the censorship?

Q2. Perform an activity (activity no. 7) at home of chapter 6 mentioned in book of Our environment.

Q3. Make one 3D ornament which belongs to your state?

Q4. Write down names of five PM (Pradhan Mantri) Schemes which is currently in progress for welfare of poor peoples of country and give details about all the five schemes?

कक्षा आठवीं अ और ब (अवकाश कार्य)

* भावानीप्रसाद मिश्र की किसी दो कविता को पढ़कर उनका अर्थ लिखें

* आपकी पसंद के किसी एक - एक विषय पर औपचारिक और अनौपचारिक पत्र लिखें।

CLASS –VIII SUBJECT- MATHS

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Learn tables till 35 and do your work neatly.

ACTIVITY:

Collect any 5 photographs, paste them and find the area for each one of them.

or

Read biography from internet and write about anyone's contribution in mathematics

(a) Aryabhatta (b) Bhaskara II

(c) Srinivasa Ramanujan (d) Brahmagupta

Worksheet

1What should be added to -5/4 to get -1?

(I) -1/4 (II) 1/4 (III) 1 (IV) -3/4 2.

2 What should be subtracted from -5/4 to get -1?

(I) -1/4 (II) 1/4 (III) 1 (IV) -3/4 3.

3 Which of the following is the identity element?

(I) 1 (II) -1 (III) 0 (IV) None of these 4.

4Which of the following is the Multiplicative identity for rational numbers?

(i)1 (II) -1 (III) 0 (IV) None of these

5 Twice the sum of two numbers is 36. If one of the numbers is 10, find the other number.

6. Solve: $5 - 3(5x + 2) = 4(7 - 3x) + 1$

7.Two supplementary angles differ by 500 . Find measure of each angle.

8. Sum of three consecutive even numbers is 36. Find the numbers.

9.Find the number of sides of a regular polygon whose each exterior angle measures 60°.

10. Four angles of a quadrilateral are in the ratio 3:4:3:6 Find its angles.

SUBJECT - ENGLISH

Class - 8

Section A: Reading Comprehension*

1. Read a novel from the recommended list (e.g., "The Giver" by Lois Lowry, "The Diary of a Young Girl" by Anne Frank) and submit a book review (250-300 words)

Section B: Writing*

1. Write a descriptive essay (250-300 words) on "A Place I Would Like to Visit."

Section C: Grammar*

1. Identify and correct errors in the following sentences:

- The teacher, along with the students, were going to the museum.

- The book, that is on the table, belongs to me.

2. Complete the sentences using the correct form of the verb:

- By next year, I _____ (complete) my middle school education.

- If I _____ (win) the lottery, I would buy a house.

Section D: Vocabulary*

1. Learn and write meanings of 15 new vocabulary words related to autumn (e.g., nostalgia, melancholy, harvest).

2. Use each word in a sentence.

Section E: Creative Writing

1. Write a poem (12-15 lines) about autumn.

Class 8

Science

(in A4 paper and stick file)

1. Collect newspaper cuttings and information in magazines about HIV/ AIDS. Write a one page

article of 15 to 20 sentences on HIV/AIDS.

2. Observe changes in human beings at different stages in life

Draw a table about Changes during different phases of life

Infancy. Childhood. Adolescence. Adulthood Aged

SUBJECT : SST

Class - 8

Here's a set of 50 questions from chapters **"Industries"** and **"When People Rebel"**.

Chapter: Industries

1. Define industry.

2. What are the three types of industries? Give examples for each.

3. How do industries impact the environment?

4. Name the factors that influence the location of an industry.

5. Explain the difference between agro-based and mineral-based industries.

6. What is the role of raw materials in the location of an industry?

7. Why are most industries located near water bodies?

8. Explain the importance of transport for industries.

9. Define cottage industry.

10. What are large-scale industries? Give two examples.

11. How does technology affect industrial development?

12. Differentiate between public sector and private sector industries.

13. What do you understand by the term 'manufacturing'?

14. Why is iron and steel industry called a 'basic industry'?

15. Name two major iron and steel industries in India.

16. What are the major challenges faced by the cotton textile industry?

17. How does government policy affect the location of industries?

18. What is the role of human resources in the industrial sector?

19. Explain the term ‘industrial system’.

20. Describe the steps involved in the production process of industries.

21. Why is the information technology (IT) industry important?

22. What are the characteristics of small-scale industries?

23. Give examples of industries that produce pollution and explain how they impact the environment.

24. What are ancillary industries?

25. Explain the distribution of major industries in the world.

Chapter: When People Rebel (1857 and After)

26. What were the main causes of the revolt of 1857?

27. Explain the role of Bahadur Shah Zafar in the Revolt of 1857.

28. Name two prominent leaders of the Revolt of 1857.

29. What was the Doctrine of Lapse? How did it contribute to the rebellion?

30. How did the British suppress the Revolt of 1857?

31. What were the economic causes of the Revolt of 1857?

32. How did the introduction of new rifles contribute to the uprising of 1857?

33. What role did the peasants and sepoys play in the Revolt of 1857?

34. Discuss the role of Rani Lakshmibai in the rebellion.

35. What were the consequences of the Revolt of 1857?

36. How did the British react after the Revolt of 1857?

37. Explain the social and religious causes of the 1857 rebellion.

38. What role did the zamindars play during the Revolt of 1857?

39. Why did the revolt fail?

40. Discuss the role of Nana Saheb in the 1857 revolt.

41. How did the Indian rulers respond to the British policies before the revolt?

42. What was the significance of the rebellion for the future freedom struggle?

43. How did the revolt affect the relations between the British and Indians?

44. Who was Tantia Tope, and what was his role in the revolt?

45. Explain the military causes behind the Revolt of 1857.

46. What impact did the Revolt of 1857 have on British policies in India?

47. Describe the role of the sepoys in the outbreak of the rebellion.

48. How did the common people participate in the Revolt of 1857?

49. What were the changes in the administration of India after 1857?

50. How did the rebellion shape Indian nationalism in the years to come?

HOLIDAY HOMEWORK FOR AUTUMN BREAK

CLASS 9 SCIENCE, 2024-25

1. (i)List any two properties that liquids have in common with gases.

(ii)Give two reasons to justify that an iron almirah is a solid at room temperature.

(iii)What happens to the heat energy which is supplied to the solid once it starts melting?

2. You are provided with a solution of substance X.How will you test whether it is saturated or unsaturated with respect to X at a given temperature? What happens when a hot saturated solution is allowed to cool?

3.Discuss the role of:

(i)Cellulose in cell wall

(ii)Presence of deeply folded membrane in mitochondria

(iii)Digestive enzymes in lysosomes.

4. Analyse the reason behind the following statements:

i) Epidermis is thicker in desert plants though it is usually single layered.

ii) Presence of waxy layer (secreted by epidermis) on the outer surface of plants.

5. Write two distinguishing features between the muscles present in the alimentary canal and limbs of man. Draw labelled diagrams of the two kinds of muscles.

6. An object travels a distance of 16 m in 4 s and then another in 16 m in 2 s.What is the average speed of the object?

7. Define SI unit of force. A force of 2N acting on a body changes its velocity uniformly from 2m/s to 5m/s in 10 s.Calculate the mass of the body.

8. (i)A bar of metal has a mass 200 g and a certain weight. Mass remains the same when weighed at the equator but weight decreases. Why?

(ii)Differentiate between mass and weight. Write any three differences.

Do the above work in your classwork copy.

9. Learn all the chapters taught till date. Read the chapter-Atoms and molecules

10. Make a working model based on any of the following theme-

a) Transport and communication

b) Disaster management

c) Food, health and hygiene

d) Resource management

e) Waste management

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कक्षा नौवीं अ (अवकाश कार्य)

* पुस्तक से इतर रहीम के दस दोहे पढ़कर उन्हें अर्थ सहित लिखें

CLASS -IX SUBJECT- ENGLISH

1. *Reading Comprehension*:

Read any short story from your NCERT textbook (from October syllabus) and write a 200 word summary.

Skills: Understanding themes and key ideas.

2. Grammar Practice:

Complete the given exercise on Subject-Verb Agreement

1.The government …… criticized for being too slow to act. (was / were)

2.No one …… a greater collection of coins than my aunt. (has / have)

3.Somebody …… waiting at the door. (is / are)

4.Two years …….. a long time to be out of work. (is / are)

5 Fatty foods, especially fries and burgers …….. harmful for health. (is / are)

6. Some students …….. excited about the idea. (is / are)

7. Neither Sam nor his children …….. English. (speaks / speak)

8. Either Jane or Susie …… to go. (has / have)

9. If anybody …….. tell them that I am out. (calls / call)

10. The contractor, along with his suppliers, …… expected to arrive soon. (is / are)

11. Several people …… complained. (has / have)

3. *Creative Writing:*

Write a diary entry describing a memorable moment during the Autumn break.

Skills: Reflective writing.

4. Vocabulary Building:

Choose 10 new words from any chapter (October syllabus) and create sentences using them.

Skills: Vocabulary application.

Grammar Practice:

Practice exercises on Modals (can, could, may, might, etc.). Using them write a paragraph or 10 sentences

Competency: Understanding modal verbs in context.

5. *Descriptive Paragraph Writing:*

Write a descriptive paragraph on "The Role of Technology in Education."

Skills: Argumentative writing, reasoning.

6. Reading Comprehension:

Analyse a newspaper editorial and write 3 new things you learned.

Competency: Critical analysis.

7. Poetry Practice:

Write the theme and poetic devices used in the poem "No Men Are Foreign."

Skills: Literary analysis.

8. Speaking Activity:

Record a 3 minutes speech on "How can we protect the environment?"

Skills: Public speaking, fluency.

Class 9. (Sst) 2024

Chapter “Climate” and “Poverty as a Challenge”

Roll no 1 to 25 attemp question no 1 to 20 and question no 46 to 50 .and Roll no 26 to 45 attemp question no 21 to 45

1. What is the full form of BPL?

2. Which organization in India measures poverty?

3. Define climate.

4. What is the main factor affecting the climate of a region?

5. Name two types of poverty as classified by sociologists.

6. Which state in India has the highest poverty ratio?

7. Name any two social indicators of poverty.

8. Which is the largest contributor to greenhouse gases?

9. What is the National Rural Employment Guarantee Act (NREGA)?

10. Mention one way climate change affects agriculture.

11. Name a vulnerable group affected by poverty.

12. What is meant by the poverty line?

13. What is the difference between absolute and relative poverty?

14. Define “seasonal poverty.”

15. Which Indian state has the lowest poverty ratio?

16. What are the main factors determining poverty in India?

17. How is climate change related to poverty?

18. Explain how the poverty line is determined in India.

19. Discuss the impact of climate change on food security.

20. How does unemployment contribute to poverty?

21. Mention two government schemes aimed at reducing poverty in India.

22. What are the key causes of poverty in rural India?

23. Explain the concept of 'vulnerable groups' in the context of poverty.

24. How does access to education affect poverty levels?

25. What role does the PDS (Public Distribution System) play in alleviating poverty?

26. Discuss the interrelationship between climate change and migration.

27. How is urban poverty different from rural poverty?

28. How does malnutrition relate to poverty in India?

29. What are the major sources of income for the poor in India?

30. Mention any three challenges faced in the implementation of anti-poverty programs.

31. Explain the relationship between climate change and natural disasters.

32. How does climate affect the livelihood of farmers in India?

33. Why do tribal communities experience higher levels of poverty?

34. What are the effects of drought on poverty?

35. What steps has the Indian government taken to reduce poverty among women

36. Discuss the major initiatives taken by the Indian government to reduce poverty since independence.

37. Explain the connection between climate change and poverty with reference to India.

38. How does poverty affect children in India? Discuss with examples.

39. Explain how poverty is both a cause and a consequence of environmental degradation.

40. Compare and contrast the economic and social dimensions of poverty.

41. How does the NREGA help in reducing poverty in India? Evaluate its success.

42. What are the consequences of poverty on health and education?

43. Discuss the role of SHGs (Self Help Groups) in alleviating poverty.

44. How does poor access to healthcare services exacerbate poverty in India?

45. What role does the government play in addressing climate change challenges in India?

46. Explain how poverty is measured using the 'multidimensional poverty index.'

47. What are the major reasons for income inequality in India, and how does it relate to poverty?

48. Discuss how poverty reduction is linked with sustainable development.

49. How does poor infrastructure contribute to the persistence of poverty in rural areas?

50. Evaluate the impact of globalization on poverty reduction in India.

PM SHRI KV AFS KUMBHIRGRAM

SCIENCE HOLIDAY HOMEWORK FOR AUTUMN BREAK

CLASS - 10, 2024-25

FAQS /PYQS FROM THE CHAPTERS TAUGHT

2023 31/5/1,2&3

1. (i)Where are testes located in the human males and why? State two function of the testes.

(ii)In the human female, one of the ovaries releases an egg every month. State the changes that take place if

a) the egg is fertilized and

b) the egg is not fertilized.

(iii)What is done during the surgical method in males and females to prevent pregnancy?

2. (i)What happens when:

a)Leaves of Bryophyllum fall on the soil/

b)Planaria is cut into many pieces?

c)Sporangia of Rhizopus on maturation liberate spores?

Mention the modes of reproduction in each of the above three cases.

(ii)Write the changes that occur in a flower once the fertilization has taken place.

3.(i)Butane had both Carbon - Carbon bonds as well as Carbon - Hydrogen bonds. Draw its structural formula and state the number of (I) C-H bonds and (II)C-C bonds in it.

(ii)You have two carbon compounds with the molecular formula C_3H_6O.Name two compounds with this formula and also draw their structural formula.

4.(i)What is saponification?Differentiate between soaps and detergents on the basis of the following:

a)their chemical composition.

b)their mechanism in hard water.

(ii)Explain the formation of micelles between oily dirt and soap molecules. Also draw its diagram.

5. Explain why carbon forms compounds mainly by covalent bonds. Explain in brief two main reasons for carbon forming a large number of compounds. Why does carbon form strong bonds with most other elements?

6.(i)Write the name and general formula of a chain of hydrocarbons in which an addition reaction with hydrogen can take place. Stating the essential condition required for an addition reaction to occur, write the chemical equation giving the name of the reactant and product of such a reaction. How is an addition reaction different from a substitution reaction?

(ii)Write the structure of benzene.

7.A neutral organic compound 'X' (Molecular formula C_2H_6O) on reacting with acidified $K_2Cr_2O_7$ gives an organic compound 'Y' which is acidic in nature.'X' reacts with 'Y' on warming in the presence of conc.H_2SO_4 to give a sweet smelling compound 'Z'.

i)Identify X,Y,Z.

ii)Write the chemical equations for the reactions in the conversion of X to Y and X to Z.

iii)State the role of acidified $K_2Cr_2O_7$ in the conversion of X to Y and conc. H_2SO_4in the reaction of X and Y.

iv)Name the reaction which occurs when Z reacts with an alkali.

8.Carry out the following conversions,stating the conditions for each:

i)Ethanol---------->Ethene (ii)Ethene---------->Ethane (iii)Ethane---------->Chloroethane

iv)Ethanol---------->Ethanoic acid (v)Ethanoic acid---------->Ethyl ethanoate

2024 31/4/1,2 &3

9. When lead nitrate is heated strongly in boiling tube, two gases are liberated and a solid residue is left behind in the test tube.

i) Name the type of chemical reaction and define it.

ii) Write the name and formula of the coloured gas liberated.

iii) Write the balanced chemical equation for the reaction.

iv) Name the residue left in the test tube and state the method of testing its nature(acidic/basic).

10.(i)Write balanced chemical equation for the following word equation.

Lead nitrate + Potassium iodide ---->Lead iodide + Potassium nitrate

Is this a double displacement reaction? Justify your answer. Name the compound precipitated and write the ions present in it.

(ii)Write the method of preparation of $Ca(OH)_2$.what happens when CO_2 is passed through it? Write balanced chemical equation for the reaction involved.

11. The variation of image distance(v) with object distance (u) for a convex lens is given in the following observation table.Analyse it and answer the questions that follow:

S.No.	Object distance(u)cm	Image distance(v)cm
1	-150	+30

2	-75	+37.5
3	-50	+50
4	-37.5	+75
5	-30	+150
6	-15	+37.5

i) Without calculation, find the focal length of the convex lens. Justify your answer.

ii) Which observation is not correct? Why? Draw ray diagram to find position of the image formed for this position of the object.

iii) Find the approximate value of magnification for u= -30 cm.

12. Define principal axis of a lens. Draw ray diagram to show what happens when a ray of light parallel to the principal axis of a concave lens passes through it.

ii) The focal length of a convex lens is 20 cm.At what distance from the lens should a 5cm tall object be placed so that its image is formed at a distance of 15 cm from the lens? Also calculate the size of the image formed.

13.i)Define a reflex arc. Why have reflex arcs evolved in animals? Trace the sequence of events which occur, when you suddenly touch a hot object.

ii) Name the part of nervous system which helps in communication between the central nervous system and other parts of the body. What are the two components of this system?

14.i)Leaves of chui mui plant begin to fold up and droop in response to a stimulus. Name the stimulus and write the case for such a rapid movement. Is there any growth involved in the movement?

ii)Define geotropism in plants. What is meant by positive and negative geotropism? Give one example of each type.

15.What is a chemical reaction?Describe one activity each to show that a chemical change has occurred in which (i)change of colour,and (ii)change in temperature has taken place.

16.i)Define a decomposition reaction.How can we say that(I) electrolysis of water,and(II)blackening of silver bromide when exposed to sunlight,are decomposition reactions?Mention the type of energy involved in each case.

ii)"The type of reactions in which(i)calcium oxide is formed,and(II)calcium hydroxide is formed are opposite reactions to each other."Justify this statement with the help of chemical equations.

17.i)State laws of reflection of light.

ii)An object of height 5.0 cm is placed at a 15cm in front of a concave mirror of focal length 10 cm.At what distance from the mirror should a screen be placed,so that a focused image is obtained on it?Find the height of the image.

18.i)State laws of refraction of light.

ii)Draw a ray diagram to show refraction of light through a rectangular glass slab.How is the emergent ray related to incident ray?Mark lateral displacement in the diagram.

2024,31/5/2

19.Explain chlor alkali process and write balanced chemical equations for the reactions that occur.Name the gases obtained at the anode and cathode respectively.Mention two uses each of the two gases obtained in the above processes.

20. Common salt is a very important raw material as many compounds of industrial use can be prepared from it.Explain,giving chemical equations,the method of preparation of washing soda from sodium chloride.List four industrial/domestic uses of washing soda.

21. Design an experiment to demonstrate that carbon dioxide is essential for photosynthesis.Write the observation and conclusion of the experiment.

22.i) In the experimental set up shown in diagram(a) atmospheric air is being passed into lime water with a pichkari while in diagram(b)air is being exhaled into lime water.The time taken for the lime water to turn milky in both the test tubes is different.Give reason.

ii)Draw the diagram of an open stomatal pore and label(i) guard cells and (ii)chloroplast on it.Mention two functions performed by stomata.

CLASS-10 A

ENGLISH HOLIDAY HOMEWORK

A) **Answer in about 40 to 50 words :- 3Mark Questions**

i) People get support from family and friends during bad times. How does Lencho's family behave after the harvest is ruined?

ii) 'Lencho was an ox of a man, working like an animal in the fields, but still he knew how to write.' What does this line tell us about the norm amongst such farmers, then?

iii) 'Dust of Snow' is one of Frost's most loved poems. Elaborate why you think this is so.

iv) The poem Dust of Snow evokes a sense of black and white. Justify.

v) If you were in Mandela's position, would you have given preference to your family or your country? Why?

vi) Mandela says that his country's greatest wealth is its people and not the purest diamonds. Justify his statement.

vii) If you were the family member of the young seagull, would you also decide not go near him? Elaborate with reason.

viii) "If he roars at you as you're dyin'/ You'll know it is the Asian Lion…" Comment on the irony of the quote from the poem "How to Tell Wild Animals".

ix) Hyperbole is a literary device used when the poet exaggerates an image to make it comical. State two instances from the poem "How to Tell Wild Animals" where q qqqqthe literary device is used.

x) What feelings do you think, might be experienced, at the loss of a mobile Phone, for a youngster today? Explain how these would be different from those felt by the boy in the poem.

xi) Do you agree with Anne when she says that teachers are the most unpredicatble creatures on earth.Rationalise.

xii) Clarify why it is fair to say that Mr Keesing was innovative with his punishments.

B) I) am an orphan, roaming the street.

I pattern soft dust with my hushed, bare feet.

The silence is golden, the freedom is sweet.)

1) The tone of the given lines is

a) analytical.

b) despairing.

c) peaceful.

d) nervous.

ii Read the statements A and B given below, and choose the option that correctly evaluates these statements.

Statement A – The figure 'I' imagines a less than realistic view of being an orphan.

Statement B – The figure 'I' does not like the speaker.

a) A is true, B is false, according to the extract

b) A is true, B cannot be clearly inferred from the extract.

c) A cannot be clearly inferred from the extract, B is false.

d) A is true and can be inferred from the poem, B is

true too.

iii The golden silence is contrasted with the _____.

a) chaos of the street. b) constant instructions received.

c) sweetness of freedom. d) hushed, bare feet.

iv The rhyme scheme 'aaa' in the above extract is followed in all other

stanzas of the poem that are written in parenthesis, i.e. (). Why?

Read the reasons given below, and choose the option that lists the most

accurate reasoning:

(i) It shows the simplicity of the child's thoughts.

(ii) It reflects the harmony and rhythm of the child's inner world.

(iii) It mirrors a child's expression.

(iv) It highlights the poet's aesthetic sensibility.

a) (i) and (iv) b) (i) and (ii) c) (ii) and (iii) d) (iii) and (iv)

v Pick the option that lists the usage of the word ‘pattern’, as in the extract above.

a) That is a lovely pattern for a wallpaper.

b) He decided to wear a patterned shirt to the party.

c) Poetry is a form of pattern making.

d) She patterned her hair after her favourite celebrity.

II) An ultimate shaking grief fixes the boy
As he stands rigid, trembling, staring down
All his young days into the harbour where
His ball went. I would not intrude on him;

i The poet uses the word ‘ultimate’ to describe the boy’s reaction.

Pick the meaning that DOES NOT display what, ‘ultimate’ means in the context given.

a) consequent b) final c) conclusive d) fateful

ii The boy is very young in this poem. As a mature, balanced grown-up, he might look back and think that his reaction of ‘ultimate shaking grief’ was

1) disproportionate to the loss.

2) pretension to procure a new toy.

3) according to his exposure and experience then.

4) a reaction to the failure of retrieving the toy.

5) justified and similar to what it would be currently.

a) 5 & 2 b) 1 & 3 c) 2 & 4 d) 3 & 5

iii Why does the speaker choose not to intrude?

This is so because the poet

a) knows that it would embarrass the boy in his moment of grief.

b) feels that it’s important that the boy learn an important life lesson,

undisturbed.

c) realises that he doesn't have sufficient funds to purchase a new ball for the boy.

d) Experiences a sense of distress himself, by looking at the boy's condition.

iv Choose the option that lists the meaning of 'harbour' as used in the extract.

Noun:

(1) a place on the coast where ships may moor in shelter.

(2) a place of refuge.

Verb:

(3) keep (a thought or feeling, typically a negative one) in one's mind, especially secretly.

(4) shelter or hide (a criminal or wanted person).

a) Option 1

b) Option 2

c) Option 3

d) Option 4

CLASS: X SOCIAL SCIENCE

1) Complete you project file on the given topic:
    a) CONSUMER RIGHTS
2) Make a map file based on chapter completed on class:
    1)Nationalism in India:

Champaran, Ahmedabad, kheda , Dandi, Amritsar ,Chauri-Chaura , Calcutta session, Nagpur session, madres session.

2)Major soil :

1) forest and Mountainous, alluvial soil, red and yellow ,black ,laterite and arid soil.

3) Major Dams :

Salal dam, Bhakra Nangal dam, Tehri dam, Rana Pratap Sagar dam , Hirakud dam, Nagarjuna Sagar dam, Tungabhadra dam.

3) Major crops:

Rice, Wheat, coffee, Tea , cotton , sugar cane ,rubber, jute and bajara.

4) Major mineral and energy resources:

Minerals: coal, gold, iron, copper, manganese, mica and bauxite.

Energy Resources Plants:

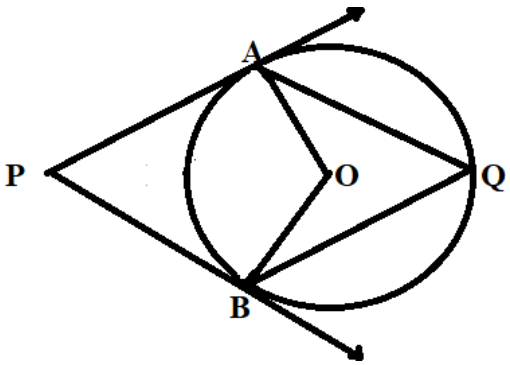
Namrup , Ramagundam, Singrauli ,Narora, Kakrapara, Tarapur, Kalpakkam.

SUMMISSION DATE : 20/10/2024

HAPPY HOLI DAYS

SUB : MATHEMATICS
CLASS : X

1	Let a and b be two positive integers such that $a = p^3q^4$ and $b = p^2q^3$, where p and q are prime numbers. If HCF(a,b) = p^mq^n and LCM(a,b) = p^rq^s, then (m+n)(r+s)= (a) 15 (b) 30 (c) 35 (d) 72
2	Let p be a prime number. The quadratic equation having its roots as factors of p is (a) $x^2 - px + p = 0$ (b) $x^2 - (p+1)x + p = 0$ (c) $x^2 + (p+1)x + p = 0$ (d) $x^2 - px + p + 1 = 0$
3	If α and β are the zeros of a polynomial $f(x) = px^2 - 2x + 3p$ and α + β = αβ, then p is (a)-2/3 (b) 2/3 (c) 1/3 (d) -1/3
4	If the system of equations 3x+y =1 and (2k-1)x +(k-1)y =2k+1 is inconsistent, then k =(a) -1 (b) 0 (c) 1 (d) 2
5	If the vertices of a parallelogram PQRS taken in order are P(3,4), Q(-2,3) and R(-3,-2), then the coordinates of its fourth vertex S are (a) (-2,-1) (b) (-2,-3) (c) (2,-1) (d) (1,2)
6	If the difference of Mode and Median of a data is 24, then the difference of median and mean is (a) 8 (b) 12 (c) 24 (d) 36 The number of revolutions made by a circular wheel of radius 0.25m in rolling a distance of 11km is (a) 2800 (b) 4000 (c) 5500 (d) 7000
7	The sum of the length, breadth and height of a cuboid is $6\sqrt{3}$cm and the length of its diagonal is $2\sqrt{3}$cm. The total surface area of the cuboid is (a) 48 cm^2 (b) 72 cm^2 (c) 96 cm^2 (d) 108 cm^2
8	If $x \tan 60^\circ \cos 60^\circ = \sin 60^\circ \cot 60^\circ$, then x = (a) cos30° (b) tan30° (c) sin30° (d) cot30°
9	**DIRECTION:** In the question number 19 and 20, a statement of **assertion (A)** is followed by a statement of **Reason (R)**. Choose the correct option ***Statement A (Assertion):*** If product of two numbers is 5780 and their HCF is 17, then their LCM is 340 ***Statement R(Reason)*** **:** HCF is always a factor of LCM (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanationof 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.

10	***Statement A (Assertion):*** If the co-ordinates of the mid-points of the sides AB and ACof ΔABC are D(3,5) and E(-3,-3) respectively, then BC = 20 units ***Statement R(Reason)* :** The line joining the mid points of two sides of a triangle is parallel to the third side and equal to half of it. (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanationof 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.
11	In the given figure, O is the centre of circle. Find ∠AQB, given that PA and PB are tangents to the circle and ∠APB= 75°. 
12	The length of the minute hand of a clock is 6cm. Find the area swept by it when it movesfrom 7:05 p.m. to 7:40 p.m.
13	Given that $\sqrt{3}$ is irrational, prove that $5 + 2\sqrt{3}$ is irrational.
14	If the zeroes of the polynomial $x^2 + px + q$ are double in value to the zeroes of the polynomial $2x^2 - 5x - 3$, then find the values of p and q.
15	A train covered a certain distance at a uniform speed. If the train would have been 6 km/hfaster, it would have taken 4 hours less than the scheduled time. And, if the train were slower by 6 km/hr ; it would have taken 6 hours more than the scheduled time. Find the length of the journey. **OR** 10Anuj had some chocolates, and he divided them into two lots A and B. He sold the first lot at the rate of ₹2 for 3 chocolates and the second lot at the rate of ₹1 per chocolate, andgot a total of ₹400. If he had sold the first lot at the rate of ₹1 per chocolate, and the second lot at the rate of ₹4 for 5 chocolates, his total collection would have been ₹460. Find the total number of chocolates he had

16	Prove that a parallelogram circumscribing a circle is a rhombus
17	To fill a swimming pool two pipes are used. If the pipe of larger diameter used for 4 hoursand the pipe of smaller diameter for 9 hours, only half of the pool can be filled. Find, how long it would take for each pipe to fill the pool separately, if the pipe of smaller diameter takes 10 hours more than the pipe of larger diameter to fill the pool? **OR** In a flight of 600km, an aircraft was slowed down due to bad weather. Its average speedfor the trip was reduced by 200 km/hr from its usual speed and the time of the flight increased by 30 min. Find the scheduled duration of the flight.
18	**Case Study-1** Trigonometry in the form of triangulation forms the basis of navigation, whether it is by land, sea or air. GPS a radio navigation system helps to locate our position on earth with the help of satellites. A guard, stationed at the top of a 240m tower, observed an unidentified boat coming towards it. A clinometer or inclinometer is an instrument used for measuring angles or slopes(tilt). The guard used the clinometer to measure the angle of depression of the boat coming towards the lighthouse and found it to be 30°.  (Lighthouse of Mumbai Harbour. Picture credits - Times of India Travel) i) Make a labelled figure on the basis of the given information and calculate the distance of the boat from the foot of the observation tower. ii) After 10 minutes, the guard observed that the boat was approaching the tower and its distance from tower is reduced by $240(\sqrt{3} - 1)$ m. He immediately raised the alarm. What was the new angle of depression of the boat from the top of the observation tower?

19	Metallic silos are used by farmers for storing grains. Farmer Girdhar has decided to build a new metallic silo to store his harvested grains. It is in the shape of a cylinder mounted by a cone. Dimensions of the conical part of a silo is as follows: Radius of base = 1.5 m Height = 2 m Dimensions of the cylindrical part of a silo is as follows: Radius = 1.5 m Height = 7 m On the basis of the above information answer the following questions. (i) Calculate the slant height of the conical part of one silo. (ii) Find the curved surface area of the conical part of one silo. (iii)(A) Find the cost of metal sheet used to make the curved cylindrical part of 1 silo at the rate of ₹2000 per m^2. **OR** (iii) (B) Find the total capacity of one silo to store grains.

Home Work for Autumn Break (Holiday)

S.No	Class & Sec	Subject	Home Work
1	XI-B	Accountancy	Solve 5(Five) Question of each chapter up to H.Y. Syllabus
2	XI-B	Business Studies	Write & Learn all the important heading and sub-heading of the topic up to H.Y. Syllabus

Please submit the homework on 18th Oct 2024.

Holiday Homework for class XI-Economics (2024-25)

1. Prepare a powerpoint presentation any one of the following topics

a) Smart city – Urban solutions for rising population

b) Online Transaction –Pros and cons

2. Best out of Waste – Urban solutions for rising population-
Prepare a layout (collage) of your project use your imagination

with available resources OR

Collect the data regarding changing trends of prices from a Retail shop of major food items in your neighbourhood from

16th May to 30th June 2024 and present it through a suitable statistical method.

Solve all the following questions/ Assignment in a fair-notebook.

1. Fill in the blanks with appropriate words.
(a)_____ activities are undertaken to earn a living.
(b) _____ is a person who works for some other person and gets paid for it.
(c)The root cause for economic problems is _____.
(d) _____ data is collected by the investigator himself.

2. Are the following statements true or false? Give reasons.
(a) All numbers are statistics.
(b) Tendulkar has a long bat. The statement is statistics.
(c) Micro economic studies an individual unit.
(d) Non sampling errors can be minimised by taking large Samples.

3. Choose the correct option.
1. Census method is
(a) Economical
(b) Suitable where the area of enquiry is wide
(c) Suitable where the units of universe are homogeneous
(d) Suitable where all units of the universe are not homogeneous
2. For the drawing lottery _____ sampling lottery is used.
(a) Random
(b) Purposive
(c) Stratified
(d) Quota
3. Questionnaires are filled by the
(a) Investigator
(b) Enumerator
(c) Informant
(d) None of these
4. Which of the following is correct regarding statistics?
(a) Aggregate of facts
(b) Numerically expressed
(c) Affected by multiplicity of causes
(d) All of these
5. Data collected by NSSO is the example of

(a) Primary data
(b) Secondary data
(c) Both a & b
(d) None of these
6.Nationality of a student is
(a) an attribute
(b) a discrete variable

(c) a continuous variable
(d) either a or b

7.The no. of observations falling within a class is called

(a) density
(b) frequency
(c) both a & b
(d) none of these

8.The value exactly at the middle of a class interval is called

(a) class mark
(b) mid value
(c) both a & b
(d) none of these

9. Class marks of a distribution are 26, 31, 36, 41, 46 and 51. Then fist class interval is
(a) 23.5 – 28.5
(b) 23 – 28
(c) 22.5 – 27.5
(d) None of these

10. Find the number of observations between 250 and 300 from the following data

Value No. of observations
More than 200 56
More than 250 38
More than 300 15
More than 350 0

(a) 56

(b) 23
(c) 15
(d) 8

11. Marks scored by 30 students are given below:

41 55 42 53 42 31 42 31 42 55
42 35 65 65 74 74 41 53 42 55
42 20 31 42 35 53 35 25 35 25
I. Arrange them in individual series
II. Arrange them in frequency array
III. Construct the frequency distribution (inclusive) taking lowest class as 20-29
IV. Convert it into an exclusive series taking the lowest **class as 20-30.**
V. Convert exclusive series into less than and more than cumulative series

12. Convert the following more than cumulative frequency distribution into less than Cumulative frequency distribution

CI(more than)	10	20	30	40	50	60	70	80
frequency	124	119	107	84	55	31	12	2

13. Convert the following cumulative frequency series into simple frequency series;

Marks	No. of students
Less than 20	10
Less than 40	

18

Less than
60

25

Less than
80

45

Less than
100

55

14 Marks scored by 50 students are given below;
40 45 38 24 46 42 45 18 53 64
45 32 52 54 78 65 52 64 66 43
48 55 50 43 48 20 27 65 37 55
51 55 62 66 38 16 60 58 46 35
72 62 54 58 30 36 43 82 46 53

I. Arrange them in individual series
II. Arrange them in frequency array (discrete frequency distribution)
III. Construct the frequency distribution (inclusive) taking lowest class as 10-19
IV. Convert it into an exclusive series taking the lowest **class as 10-20.**
V. Convert exclusive series into less than and more than cumulative series

THANK YOU

CLASS: XI ENGLISH CORE
SUBMISSION DATE: 20.10.2024

I) Read the passage given below and answer the questions that follow.
In Delhi where 80% of the people are pedestrians in some stage of their commuting, least attention

is paid in pedestrian paths. Delhi's sidewalks are too narrow, very poorly maintained and full of
potholes poles, junction boxes and dangerous electrical installation, not to speak of the garbage
dumps that stink and stare at the pedestrian Ashram Chowk is a good case in point where thousands
of pedestrian change direction from the Mathura Road radial to the Ring Road. A flyover facilitates
the automobiles.
While the pedestrian is orphaned by the investment hungry authorities. One corner of the Ashram
Chowk has a ridiculous imitation wood sculpture with an apology of a fountain and across the same
Chowk you have the open-mouthed massive garbage dump right on the pedestrian path in full
exhibition for the benefit of the public. These symbols of poor taste and object apathy are then
connected by narrow dangerous and often waterlogged footpaths for the helpless pedestrian to
negotiate. In the night street lighting in the central median light up the carriageway for cars and leave
the pedestrian areas in darkness.
Delhi's citizens leave and want to get to their destination as fast they can. No one wants to linger on
the road, no leisure walks, no one looks a stranger in the eye. It is on the pedestrian path that citizen
encounters head on the poor public management and the excuse called multiplicity of authorities
One agency makes the road, another digs it up to lay cables, third one comes after months to clear
up the mess and the cycle of unaccountability goes on. Meanwhile crores are spent in repairing the
carriageway for vehicles and in construction of the flyovers without a care for the pedestrian below.
Solution offered is to make an expensive underpass or an ugly foot overbridge, ostensibly for
facilitating the pedestrian, while in reality they only facilitate the car to move faster at the expense of
the pedestrian. Take Kashmiri gate, ITO, Ashram Chowk, AIIMS. or Dhaula Kuan, at all these
important, at pedestrian crossover points the story is the same. They have pulled the sidewalk from
the pedestrian's feet.

In modern cities across the world, the pedestrian is king. The floor of the city is designed and
maintained as an inclusive environment, helping the physically challenged, the old and the infirm
children and the ordinary citizens to move joyful across the city, Delhi aspires to be world class city
Hopefully the authorities would look once again at the floor of Delhi.
The pleasure of strolling on the road is deeply connected to our sense of citizenship and sense of
belonging. Pride in the city grows only on a well-designed floor of the city.

a) On the basis of your reading of the above passage make-notes on it using heading and sub-
heading. Also use recognized abbreviation wherever necessary. Supply a suitable title. (5 Marks)

b) Write the summary of the passage.
II) Read the following passage carefully:
How does television affect our lives? It can be very helpful to people who carefully choose the shows
that they watch Television can increase our knowledge of the outside world; there are high quality
programmes that help us understand many fields of study, science, medicine, the arts and so on.
Moreover, television benefits very old people who can't often leave the house, as well as patients in

hospital. It also offers non-native speakers the advantage of daily informal language practice. They
can increase their vocabulary and practice listening.
On the other hand, there are several serious disadvantages to television. Of course, it provides us
with a pleasant way to relax and spend our free time, but in some countries, people watch the
'boob-tube' for an average of six hours or more a day. Many children stare at a television screen for
more hours each day than they do anything else, including studying and sleeping. It's clear that the
tube has a powerful influence on their lives and that its influence is often negative.
Recent studies show that after only thirty seconds of watching television, a person's brain 'relaxes'

the same way that it does just before the person falls asleep. Another effect of television on the
human brain is that it seems to cause poor concentration. Children who view a lot of television can
often concentrate on a subject for only fifteen to twenty minutes. They can pay attention only for the
amount of time between commercials.
Another disadvantage is that television often causes people to become dissatisfied with their own
lives. Real life does not seem as exciting to these people as the lives of actors on the screen. To many
people television becomes more real than reality and their own lives ... boring. Also, many people
get upset or depressed when they can't solve problems in real life as quickly as television actors
seem to. Before a child is fourteen years old, he or she views eleven thousand murders on the tube.
He or she begins to believe that there is nothing strange about fights, killings and other kinds of
violence. Many studies show that people become more violent after certain. Programmes they may
even do the things that they saw in a violent show.

a) On the basis of your reading of the above passage make-notes on it using heading and sub-
heading. Also use recognized abbreviation wherever necessary. Supply a suitable title.

b) Write the summary of the passage on the basis of the note.
III) The sports In-charge of your school has asked you to deliver a speech on "The Value of Games
and Sports in life" in the morning assembly. Draft a speech in about 200 words.
IV) To foster awareness among the students of the importance of tourism and its social, cultural and
economic values, your school is celebrating World Tourism Day and your teacher has asked you to
prepare a speech on the topic "Why People Travel'. Taking ideas from surrounding, real life, together
with your own ideas, prepare a speech in about 150-200 words.
V) Complete the following sentences with suitable Determiners:
1. ..... of them have a pencil. How would they draw the picture?
2. My father did not have ..... money left in the purse.

3. Would you give me ..... money? I have to buy a book.
4. He took off ..... shoes and jumped into the well to save the child.
5. He sold ..... new car to pay his fees.
6. ..... students have not given their names for scholarship.
7. Yes, ... is the design I was looking for.
8. ..... cycle is this.
9. ..... visitors go to visit Akshar Dham in Delhi.
10. How ..... inches are there in a foot?
11. Let us spend ..... money in helping the poor.

VI) Change the voice:
a) The children watered the plants in the park.
b) My brother purchased the new laptop from the market.
c) You should help your father in his work.
d) Someone has stolen my mobile.
e) The manager organised the meeting in the hall.
VII) Change the following sentences by filling the correct form of verb given in brackets:
a. Your book will ..... (release) soon.
b. This poem ..... (write) by me when I was seven year old.
c. He ..... (invite) by the President to recite his poem.
d. English is ..... (speak) in many countries.
e. Did you ..... (recite) the poem yesterday?
VIII) Rearrange the following to form meaningful sentences:
(a) As / managed / several / was / hunter / birds / he / a / he / good / shoot / to
(b) Snow / way / he / home / back / the / made / his / through.
(c) And / he / rested / rock / a / near / tired / huge / became.
IX) Answer the following in 30-40 words:
A PHOTOGRAPH
a) What does the poet tell us about the sea?
b) What does ‘this circumstance’ refer to?
c) Both the poet and her mother experience losses in their lives. What are those losses?
d) ‘Its silence silences’, says the poet. What has silenced the poet?
e) The three stanzas depict three different phases. What are they?
THE PORTRAIT OF A LADY
a) Why does the narrator call his grandmother a ‘winter landscape’?
b) How did Khushwant Singh portray his Grandfather in the lesson?
c) Which stories of Grandmother did the author treat as ‘Fables of the Prophets’? Why?
d) Grandmother had a divine beauty. How does the author bring this out?
e) ‘We protested. But she ignored our protests’. Who protested and why? What was the result?

f) ‘When people are pious, kind hearted and God fearing, even nature mourns their death’. Justify
this
statement with reference to The Portrait of a Lady’.(Word limit 120)
WE’RE NOTAFRAID TO DIE..IF WE CAN ALL BE TOGETHER
a) How did the children’s presence and behavior during the crisis influence the narrator?

b) What are Mayday calls? Why was the boat getting no replies to its Mayday calls?
c) Why were the electric pumps not working?
d) Describe Larry Vigil and Herb Seigler’s role in facing the disaster.
e) Why was lle Amsterdam, the most beautiful island for the crew of Wave walker?
f) How does the story suggest that optimism helps to endure ‘the direst stress’? (WORD LIMIT 120

CLASS: XI INFORMATIC PRACTICES

Computer System

Q1) How does a computer function?

Q2) Explain in brief about the fifth generation computers?

Q3) Explain RAM and name its types?

Q4) What is Application Software? Define its types

Q5) What do you mean by software?

Brief Overview of Python

Q1) Write a short note on Python?

Q2) Explain the working on Python in both modes.

Q3) What are different types of Tokens?

Q5) What are the different types of Operators?

Q6) Correct the errors

x, y, z = 4, 8, 12

```
print(x, y, z)

a, b, c = x, y, z

print(a, b, c)
```

Q7) Write a Python program to calculate the area and perimeter of rectangle?

Control Statements

Q1) Which one of the following is a valid Python if statement?

a) if a>=2:
b) if (a>=2)
c) if (a=>22)
d) if a>=22

Q2) Write a program that uses exactly four for loops to print the sequence of letters below:

AAAAAAABBBBBBCCCCCCCEEEE

Q3) Write a python program to input sale amount and calculate the discount as per the following criteria.

The discount rates are:

Amount	Discount
0-10000	10%
10000-20000	15%
20000-30000	25%
Above 30000	35%

Q4) What is the difference between else and elif construct of if statement

Q5) Write a program to input user name and password and to check whether the given user name and password is correct or not. (Password – 123, Username – XXXXX)

Q6) Which of the following identifier names are invalid and why?

a) Serial_no.
b) 1^{st}_Room
c) True

d) _Percentage

Q7) Give the output of the following when num1 = 4, num2 = 3, num3 = 2

a) num1+ =num2 + num3
b) num1** = num2 + num3
c) print(num1)

List

Q1) What do you mean by List? How to create a List?

Q2) Which of the following commands will create a list?

a) List1 = list()
b) List1 = []
c) List1 = list([1,2,3])
d) All of the above

Q3) Find the object of following questions based on list

Value = [45,32,98,-78,-6,'Hello',Honesty]

i) Value[5]
ii) Value[-5]
iii) Value[1] + Value[-1]
iv) Value[4] + Value[-4]

Q4) Explain the following methods:

i) insert()
ii) count()
iii) extend()
iv) count()

Q5) Write a program to calculate the average and total of 5 numbers in a list.

Q6) Write a module to calculate and display the sum of all odd numbers in a list.

Q7) Write a Python program to enter two lists and merge them. Also display merge list.

कक्षा ग्यारहवीं (अवकाश कार्य)

* दुष्यंत कुमार की पुस्तक "साए में धूप" की दस गजलों को पढ़कर उनकी समीक्षा करें।

CLASS XI SUBJECT – CHEMISTRY

Q1. If 700 mL of H_2 at STP contains x molecules of it, how many molecules of O_2 are present in 700 mL of it at the same temperature and pressure?
Q2. Nitrogen combines with dihydrogen according to the reaction. $N_2(g) + 3H_2(g) \rightleftharpoons 2NH_3(g)$
What is the ratio in their volumes under similar conditions of temperature and pressure?
Q3. We don't see a car moving as a wave on the road and why?
Q4. Calculate the total number of required angular nodes and radial nodes present in the 3p orbital.
Q5. Chlorophyll present in green leaves of the plants absorbs light at 4.620×10^{14} Hz. Calculate the wavelength of the radiation in nanometers. Which part of the electromagnetic spectrum does it belong to?
Q6. The electronic configuration of valence shell of Cu is $3d^{10}4s^1$ and not $3d^9 4s^2$. How is this configuration explained?
Q7. Why the electron gain enthalpy of fluorine is less negative than that of chlorine?
Q8. What is IUPAC name of element having atomic number 107.
Q9. Which of the following have largest and the shortest ionic radii? - O^{2-}, F^-, Na^+ and Mg^{2+}
Q10. Which among the following has the largest dipole moment? (a) NH_3 (b) H_2O (c) HI (d) SO_3
Q11. Which of the following pairs of molecules will have permanent dipole moment for both members? (a) NO_2 and CO_2 (b) NO_2 and O_3 (c) SiF_4 and CO_2 (d) SiF_4 and NO_2
Q12. Which out of NH_3 and NF_3 has higher dipole moment and why?
Q13. What is meant by hybridisation of atomic orbitals? Describe the shapes of sp, sp^2, sp^3 hybrid orbitals.
Q14. Compare the relative stability of the following species and indicate their magnetic properties: O_2, O_2^- (Superoxide), O_2^{2-} (peroxide)
Q15. Explain why O-O bond lengths in ozone molecule are equal?
Q16. How many sigma – and - bond are there in a molecule of C2H4 (ethene)?
Q17. What are IUPAC sign conventions for Heat and work?
Q18. What is Heat capacity at constant pressure? Write formula and unit also.
Q19. Why does entropy increase on mixing of two gases?
Q20. **ASSERTION AND REASON TYPE QUESTIONS**
Note: In the following questions a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.
(a) Assertion and reason both are true, reason is correct explanation of assertion.
(b) Assertion and reason both are true but reason is not the correct explanation of assertion.
(c) Assertion is true, reason is false.
(d) Assertion is false, reason is true
21. Assertion: When two hydrogen atoms come together to form bond their energies first decreases then increases.

Reason: In the beginning in hydrogen atoms the total attractive forces is less than the total repulsive forces but after a certain distance the repulsive forces become higher than attractive forces.
22. Assertion: Pi bond is weaker than sigma bond
Reason: The pi bond is formed by larger intermerging of the lobes.
23. Assertion: Hybrid orbitals are formed by those orbitals which have unequal energies.
Reason: The bond formed by hybrid orbitals is stronger than unhybridized orbitals.
24. Assertion: The hybridized orbitals are directional in nature therefore indicates the geometry of the molecules.
Reason:- Geometry and shape of the molecules are the same for all types of molecules
25. Assertion: The bonding molecular orbital has lower energy and hence greater stability than the corresponding antibonding molecular orbital.
Reason: The bonding orbital is formed by the constructive interference of the wave function.

Q26. **CASE STUDY BASED QUESTION - 1**

Molecular Orbital Theory

Molecular Orbital Theory is a chemical bonding theory that states that individual atoms combine together to form molecular orbitals. Due to the arrangement in Molecular Orbital Theory, electrons related to different nuclei are found in different atomic orbitals. In molecular orbital theory, the electrons in a molecule are not assigned to individual chemical bonds between the atoms. Rather, they are treated as moving under the influence of the atomic nuclei in the entire molecule.

- • The theory was developed by F. Hund and R. S. Mulliken at the beginning of the 20th century.
- • It aimed to describe the structure and properties of different molecules.
- • Molecular orbital theory turned out to be more powerful than the valence-bond theory.
- • The orbitals described by molecular orbital theory reflect the geometries of the molecules to which it is applied.

1. Which of the following about molecular orbital is incorrect?
a) Molecular orbitals are forms by the linear combination of atomic orbitals
b) It helps us to find the magnetic character of the species
c) The energies of $\pi 2p_x$ and $\pi 2p_y$ molecular orbitals are same
d) It gives information about the geometry of the molecules
2. Considering x-axis as the internuclear axis which out of the following will form a sigma bond?
(a) 1s and 2s
(b) 1s and 2px
(c) 2py and 2pz
(d) 1s and 2s

Q27. MULTIPLE CHOICE QUESTIONS OF THERMODYNAMICS

1.A well stoppered thermos flask contains some ice cubes. This is an example of ----------

4. The least random state of the water system is ----------

7. The correct relationship between free energy change in a reaction and the corresponding equilibrium constant K_C is
8. What is the entropy change (in $JK^{-1}\ mol^{-1}$) when 1 mole of ice is converted into water at 0°C? (The enthalpy change for the conversion of ice to liquid water is 6.0 $kJ\ mol^{-1}$ at 0°C)
9. If liquids A and B form an ideal solution. The entropy of mixing is ---------- ---------- .

28. (a) We can determine $\Delta H_{lattice}$ with the help of cycle. Name the cycle.
(b) How can we calculate enthalpy of solution?
(c) What is molar heat capacity of water in equilibrium with ice at constant pressure?
(d) Standard entropy of X_2 , Y_2 and XY_3 are 60, 40 and 50 $JK^{-1}\ mol^{-1}$ respectively. For the reaction $1/2X_2 + 3/2Y_2 \longrightarrow XY_3$, $\Delta H = -30$ KJ to be at what temperature, process will be at equilibrium. (f) What are sign of ΔH and ΔS for process to be always spontaneous?

CLASS XI SUBJECT – COMPUTER SCIENCE

Basic Computer Organization

Q1) Define the term CPU. What is the function of an input device?

Name two examples of system software.

Q2) Differentiate between primary memory and secondary memory.

Q3) Explain the purpose of cache memory in a computer system.

Q4) Describe the various types of software and their functions with examples.

Q5) Explain the concept of memory hierarchy in a computer system, mentioning the role of

primary, secondary, and cache memory.

Boolean Logic and Number Systems

Q1) What is a truth table in Boolean logic? What is the base of the binary

number system?

Q2) How is a NAND gate different from an AND gate?

Q3) Convert the decimal number 245 to its binary, octal, and hexadecimal

equivalents.

Q4) Draw the logic circuit for the expression:

(A . B) + (A' + B)

Q5) Write the Boolean expression for an AND,OR, NOT gate.

Knowledge of Data Types

Q1) Find the statements are True or False if it is False then correct it:-

a. The integer data type can store floating-point values
b. Strings in Python are mutable
c. Dictionaries are ordered collection in Python
d. You can modify elements in a tuple
e. Python supports only mutable data.

Q2) What is the output of the following codes:-

a) type(5)
b) type([1, 2, 3])
c) a = "Hello" a[1] = ?
d) len(1, 2, 3)
e) bool (0)

Q3) Write a program to demonstrate the use of mutable and immutable data types in Python.

Q4) What are mutable and immutable types in Python? Give the answer with examples.

Q5) p =5, 6

q = 6, 5

print(p, q)

Operators

Q1) What are operators in Python? How many types of Operators are there.

Q2) A, B, C, D = 9.2, 2.0, 4, 21

```
print( (A/4), (A//4))

print( B ** C)

print(D // B)

print(A % C)
```

Q3) What are relational and Logical Operators? How many types and show with examples.

Q4) What are Relational and Logical Operators?

Q5) What is the result of a = 10; a += 5

Q6) What are augmented operators?

Conditional and Iterative Statements

Q1) Find the error:

a) The if statements can only have two possible branches (True or False)

b) The elif can only be used once in a conditional structure

c) The break statement is used to skip the current iteration in a loop

d) The continue statement exits the loop completely

Q2) What is the output of the following code?

```
if 5 > 3:
        print("True")
else:
        print("False")
```

Q3) What will the following code print?

```
x = 10
while x > 0:
        x- = 2
```

```
if  x == 4:
        continue
print(x)
```

Q3) What is the result of the following code?

```
num = 10
if num % 2 == 0:
        print(“Divisible by 2”)
elif num% 5 == 0:
        print(“Divisible by 5”)
```

Q4) Write a program that checks whether a number is positive, negative, or zero using conditional statements.

Q5) Create a program that finds whether a given number is divisible by both 3 and 5 using if – else.

Q6) Write a program to find the factorial of a positive integer using a while loop.

Strings

1. Find the error: The + operator cannot be used for string concatenation.

2. Find the error: Strings in Python are mutable, meaning we can change their characters.

3. Find the error: startswith() checks if the string ends with a given substring.

4. What is the output of the following code?

```
python
s = "hello"
print(s.upper())
```

5. Write a program to check if a string is a palindrome (reads the same forward and backward).

6. Write a program to count the number of vowels in a given string.

7. Write a program that asks the user for a string and then returns the string without any spaces.

CLASS: XI ENGLISH CORE

SUBMISSION DATE: 20.10.2024

I) Read the passage given below and answer the questions that follow.

In Delhi where 80% of the people are pedestrians in some stage of their commuting, least attention

is paid in pedestrian paths. Delhi's sidewalks are too narrow, very poorly maintained and full of

potholes poles, junction boxes and dangerous electrical installation, not to speak of the garbage

dumps that stink and stare at the pedestrian Ashram Chowk is a good case in point where thousands

of pedestrian change direction from the Mathura Road radial to the Ring Road. A flyover facilitates

the automobiles.

While the pedestrian is orphaned by the investment hungry authorities. One corner of the Ashram

Chowk has a ridiculous imitation wood sculpture with an apology of a fountain and across the same

Chowk you have the open-mouthed massive garbage dump right on the pedestrian path in full

exhibition for the benefit of the public. These symbols of poor taste and object apathy are then

connected by narrow dangerous and often waterlogged footpaths for the helpless pedestrian to

negotiate. In the night street lighting in the central median light up the carriageway for cars and leave

the pedestrian areas in darkness.

Delhi's citizens leave and want to get to their destination as fast they can. No one wants to linger on

the road, no leisure walks, no one looks a stranger in the eye. It is on the pedestrian path that citizen

encounters head on the poor public management and the excuse called multiplicity of authorities

One agency makes the road, another digs it up to lay cables, third one comes after months to clear

up the mess and the cycle of unaccountability goes on. Meanwhile crores are spent in repairing the

carriageway for vehicles and in construction of the flyovers without a care for the pedestrian below.

Solution offered is to make an expensive underpass or an ugly foot overbridge, ostensibly for

facilitating the pedestrian, while in reality they only facilitate the car to move faster at the expense of

the pedestrian. Take Kashmiri gate, ITO, Ashram Chowk, AIIMS. or Dhaula Kuan, at all these

important, at pedestrian crossover points the story is the same. They have pulled the sidewalk from

the pedestrian's feet.

In modern cities across the world, the pedestrian is king. The floor of the city is designed and

maintained as an inclusive environment, helping the physically challenged, the old and the infirm

children and the ordinary citizens to move joyful across the city, Delhi aspires to be world class city

Hopefully the authorities would look once again at the floor of Delhi.

The pleasure of strolling on the road is deeply connected to our sense of citizenship and sense of

belonging. Pride in the city grows only on a well-designed floor of the city.

a) On the basis of your reading of the above passage make-notes on it using heading and sub-

heading. Also use recognized abbreviation wherever necessary. Supply a suitable title. (5 Marks)

b) Write the summary of the passage.

II) Read the following passage carefully:

How does television affect our lives? It can be very helpful to people who carefully choose the shows

that they watch Television can increase our knowledge of the outside world; there are high quality

programmes that help us understand many fields of study, science, medicine, the arts and so on.

Moreover, television benefits very old people who can't often leave the house, as well as patients in

hospital. It also offers non-native speakers the advantage of daily informal language practice. They

can increase their vocabulary and practice listening.

On the other hand, there are several serious disadvantages to television. Of course, it provides us

with a pleasant way to relax and spend our free time, but in some countries, people watch the

'boob-tube' for an average of six hours or more a day. Many children stare at a television screen for

more hours each day than they do anything else, including studying and sleeping. It's clear that the

tube has a powerful influence on their lives and that its influence is often negative.

Recent studies show that after only thirty seconds of watching television, a person's brain 'relaxes'

the same way that it does just before the person falls asleep. Another effect of television on the

human brain is that it seems to cause poor concentration. Children who view a lot of television can

often concentrate on a subject for only fifteen to twenty minutes. They can pay attention only for the

amount of time between commercials.

Another disadvantage is that television often causes people to become dissatisfied with their own

lives. Real life does not seem as exciting to these people as the lives of actors on the screen. To many

people television becomes more real than reality and their own lives ... boring. Also, many people

get upset or depressed when they can't solve problems in real life as quickly as television actors

seem to. Before a child is fourteen years old, he or she views eleven thousand murders on the tube.

He or she begins to believe that there is nothing strange about fights, killings and other kinds of

violence. Many studies show that people become more violent after certain. Programmes they may

even do the things that they saw in a violent show.

a) On the basis of your reading of the above passage make-notes on it using heading and sub-

heading. Also use recognized abbreviation wherever necessary. Supply a suitable title.

b) Write the summary of the passage on the basis of the note.

III) The sports In-charge of your school has asked you to deliver a speech on “The Value of Games

and Sports in life” in the morning assembly. Draft a speech in about 200 words.

IV) To foster awareness among the students of the importance of tourism and its social, cultural and

economic values, your school is celebrating World Tourism Day and your teacher has asked you to

prepare a speech on the topic “Why People Travel’. Taking ideas from surrounding, real life, together

with your own ideas, prepare a speech in about 150-200 words.

V) Complete the following sentences with suitable Determiners:

1. ..... of them have a pencil. How would they draw the picture?

2. My father did not have ..... money left in the purse.

3. Would you give me ..... money? I have to buy a book.

4. He took off ..... shoes and jumped into the well to save the child.

5. He sold ..... new car to pay his fees.

6. ..... students have not given their names for scholarship.

7. Yes, ... is the design I was looking for.

8. ..... cycle is this.

9. ..... visitors go to visit Akshar Dham in Delhi.

10. How ..... inches are there in a foot?

11. Let us spend ..... money in helping the poor.

VI) Change the voice:

a) The children watered the plants in the park.

b) My brother purchased the new laptop from the market.

c) You should help your father in his work.

d) Someone has stolen my mobile.

e) The manager organised the meeting in the hall.

VII) Change the following sentences by filling the correct form of verb given in brackets:

a. Your book will ..... (release) soon.

b. This poem ..... (write) by me when I was seven year old.

c. He ..... (invite) by the President to recite his poem.

d. English is ..... (speak) in many countries.

e. Did you ..... (recite) the poem yesterday?

VIII) Rearrange the following to form meaningful sentences:

(a) As / managed / several / was / hunter / birds / he / a / he / good / shoot / to

(b) Snow / way / he / home / back / the / made / his / through.

(c) And / he / rested / rock / a / near / tired / huge / became.

IX) Answer the following in 30-40 words:

A PHOTOGRAPH

a) What does the poet tell us about the sea?

b) What does 'this circumstance' refer to?

c) Both the poet and her mother experience losses in their lives. What are those losses?

d) 'Its silence silences', says the poet. What has silenced the poet?

e) The three stanzas depict three different phases. What are they?

THE PORTRAIT OF A LADY

a) Why does the narrator call his grandmother a 'winter landscape'?

b) How did Khushwant Singh portray his Grandfather in the lesson?

c) Which stories of Grandmother did the author treat as 'Fables of the Prophets'? Why?

d) Grandmother had a divine beauty. How does the author bring this out?

e) ‘We protested. But she ignored our protests’. Who protested and why? What was the result?

f) ‘When people are pious, kind hearted and God fearing, even nature mourns their death’. Justify

this

statement with reference to The Portrait of a Lady’.(Word limit 120)

WE’RE NOTAFRAID TO DIE..IF WE CAN ALL BE TOGETHER

a) How did the children’s presence and behavior during the crisis influence the narrator?

b) What are Mayday calls? Why was the boat getting no replies to its Mayday calls?

c) Why were the electric pumps not working?

d) Describe Larry Vigil and Herb Seigler’s role in facing the disaster.

e) Why was lle Amsterdam, the most beautiful island for the crew of Wave walker?

f) How does the story suggest that optimism helps to endure ‘the direst stress’? (WORD LIMIT 120)

CLASS XI

SUBJECT PHYSICS

1. Find the dimensions of a x b in the relation $P= (a-t^2)/b \sqrt{x}$, where x is distance, t is time and P is power.

2. The moment of inertia of two rotating bodies A and B are I_A and I_B respectively . $I_A > I_B$ and their angular momenta are equal. Find out which one has greater kinetic energy?

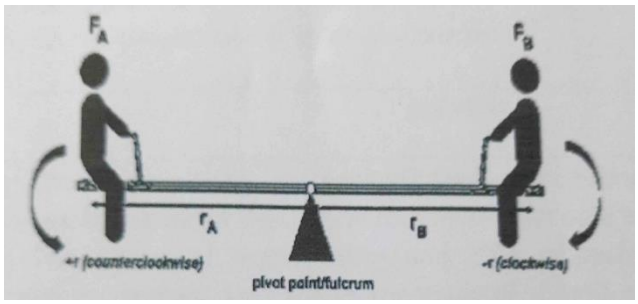
3. Derive any two rotational equations of motion.

4. Prove that the rate of change of angular momentum of a particle is equal to the torque acting on it.

5. Give the condition for equilibrium under concurrent forces through expression and diagram.

6. Derive an expression for the loss of kinetic energy in perfectly inelastic collision.

7. In the figure shown below if weight of each child is 250 N and the centre of mass of each child is at a distance of 1.5m from the axis of rotation of the see-saw, then find the clockwise moment .



8. Why circular roads are banked? Deduce an expression for the maximum permissible speed of the circular motion of a car on a banked road.

9. Two bodies of masses 10kg and 20kg respectively kept on a smooth horizontal surface are tied to the ends of a light string. A horizontal force F=600N is applied to 20 kg mass. What is the tension in the string?

10. Why do cricketers lower their hands while taking a catch?

11. i) What do you mean by a projectile?

ii) Derive the expressions for time of flight and maximum height for the projectile thrown with some initial velocity making an angle θ with the horizontal.

12. i) Derive the expression for centripetal acceleration for a body undergoing uniform circular motion.

ii) A body of mass 5kg is revolving in a circle of diameter 0.30m making 2000 revolutions in 2 minutes. Calculate its linear velocity.

CLASS-XI
(MATHEMATICS)

Complete this Assignment during Autumn Break in Home Work Copy and submit it on day reopening of the Vidyalaya i.e. 18/10/2024.

SECTION A
(Multiple Choice Questions)
Each question carries 1 mark

Q1. Let set A: set of girl students of class XI of a particular school S.
Set B: set of students of class XI of a particular school S.
Set C: Set of students of particular school S.
Which of the following is not true?

The domain and range of real function f defined by $f(x) = \frac{4-x}{x-4}$ is given by:

(a)Domain= R, Range = $\{-1,1\}$ (b) Domain= $R - \{1\}$, Range = R
(c) Domain= $R - \{4\}$, Range = $\{-1\}$ (d) Domain= $R - \{-4\}$, Range = $\{-1,1\}$

Q3. If R is a relation on the set A = $\{1,2,3,4,5,6,7,8,9\}$ given by xRy $\Leftrightarrow$ y = 3x, then R =

(a) $\{(3,1),(6,2),(8,2),(9,3)\}$ (b) $\{(3,1)(6,2)(9,3)\}$ (c) $\{(3,1)(2,6)(3,9)\}$ (d) None of these.

Q4. If the second term of a G.P. is 2 & the sum of its infinite terms is 8, then G.P. is

(a) $8,2,\frac{1}{2},\frac{1}{8},\ldots$ (b) $10,2,\frac{2}{5},\frac{2}{25},\ldots$ (c) $4,2,1,\frac{1}{2},\frac{1}{4},\ldots$ (d) $6,3,\frac{3}{2},\frac{3}{4},\ldots$

Q5. If the set A has p elements, B has q elements, then the number of elements in $A \times B$ is

(a) $p+q$ (b) $p+q+1$ (c) pq (d) p^2

The modulus of $3-4i$ is:

(a)-5 (b) 5 (c) $\sqrt{7}$ (d) $\sqrt{17}$

Q7. The equation of the line passing through $(1,2)$ & parallel to $x+y+7=0$ is

(a) $y+x-3=0$ (b) $y+x-2=0$ (c) $y-x+3=0$ (d) $y-x-3=0$

Q8. In how many ways a committee consisting of 3 men and 2 women, can be chosen from 7 men and 5 women?
(a) 45 (b) 350 (c) 4200
(d) 230

In an A.P. the pth term is q and the (p + q) th term is 0. Then the qth term is
(a) – p (b) p (c) p + q (d) p – q

Q10. The total number of terms in the expansion of $(x+a)^{51} - (x-a)^{51}$ after simplification is
(a) 102 (b) 25 (c) 26 (d) None of these

Q11. For a complex number $z, z-\bar{z}$ is

(a) real numuber (b) $\mathrm{Im}(z)$ (c) $2\,\mathrm{Re}(z)$ (d) $2i\,\mathrm{Im}(z)$

Q12. The shaded part of the number line in below given Fig . can also be described as

(a)$(-\infty,-1) \cup (2,\infty)$ (b)$(-\infty,-1] \cup [2,\infty)$ (c)$(-1,2)$ (d) $[-1,2]$

Q13. Given that x, y and b are real numbers and $x < y, b > 0$, then

(a) $\frac{x}{b} < \frac{y}{b}$ (b) $\frac{x}{b} \le \frac{y}{b}$ (c) $\frac{x}{b} > \frac{y}{b}$ (d) $\frac{x}{b} \ge \frac{y}{b}$

Q14. The total number of 9 digit numbers which have all different digits is

(a) $10!$ (b) $9!$ (c) $9 \times 9!$ (d) $10 \times 10!$

Q15. If ${}^{n}C_{9} = {}^{n}C_{8}$, then ${}^{n}C_{17}$ is

(a) 17 (b) 8 (c) 9 (d) 1

Q16. The two lines $ax + by + c = 0$ and $a'x + b'y + c' = 0$ are perpendicular if

(a) $ab' = ab'$ (b) $ab + a'b' = 0$ (c) $ab' + a'b = 0$ (d) $aa' + bb' = 0$

Q17. If the set A and B have 2 and 3 elements respectively then the number of subsets of set $(A \times B)$ is:

(a) 32 (b) 64 (c) 128 (d) 6

Q18. The number of terms in the expansion of $(1 + 4x + 6x^2 + 4x^3 + x^4)^{10}$ is

(a) 50 (b) 5 (c) 41 (d) 11

(Assertion & Reason type questions)

Each question carries 1 mark

In the following questions, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

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

Q19. Assertion: (A) If A={a,b,c,d},then the number of subsets containing 'a' is 8.
Reason : (R) The number of subsets of set A ={1,2,3,…,n} containing 1 is 2^{n-1}.

Q20. Assertion (A) : The value ${}^{n}C_{0} + {}^{n}C_{1} + {}^{n}C_{2} + {}^{n}C_{3} + {}^{n}C_{4} + {}^{n}C_{5} + \ldots upto\ n+1\ terms = 2^{n}$

Reason (R) : The expansion of $(1+x)^{n} = {}^{n}C_{0} - {}^{n}C_{2}x^{2} + {}^{n}C_{4}x^{4} - - - upto\ n+1\ terms.$

SECTION B

(VERY SHORT ANSWERS)

Each question carries 2 mark

Two sides of a square lie one the lines x+y=1 and x+y+2=0 .Find the area of the square .

Q21. Prove that : $\cos 510^{\circ} \cos 330^{\circ} + \sin 390^{\circ} \cos 120^{\circ} = -1$

OR

Prove that : $\sin^2\left(\frac{\pi}{8}+\frac{x}{2}\right)-\sin^2\left(\frac{\pi}{8}-\frac{x}{2}\right)=\frac{1}{\sqrt{2}}\sin x$

Q22. How many words , with or without meaning, each with 2 vowels & 3 consonants can be formed from the letters of the word DAUGHTER ?

Q23. Solve the following system of inequations : $3x-6\geq 0, 4x-10\leq 6$ in R.

Q24. In how many ways can 4 red ,3 yellow and 2 green discs be arranged in a row if the discs of the same color are indistinguishable ?

OR

How many chords can be drawn through 21 points on a circle?

SECTION C
(SHORT ANSWERS)
Each question carries 3 mark

Q25. Find n so that $\frac{a^{n+1}+b^{n+1}}{a^n+b^n}$ may be the G.M. between a and b.

Q26. Using binomial theorem , expand $\{(x+y)^5+(x-y)^5\}$ *and hence evaluate* $\left\{\left(\sqrt{2}+1\right)^5+\left(\sqrt{2}-1\right)^5\right\}$.

Q27. Prove that $\cos 6x = 32\cos^6 x-48\cos^4 x+18\cos^2 x-1$

& hence evaluate $64\cos^6\frac{\pi}{18}-96\cos^4\frac{\pi}{18}+36\cos^2\frac{\pi}{18}-2$

Q28. If $(x+iy)^{1/3}=(a+ib), x,y,a,b\in R$. Show that $\frac{x}{a}+\frac{y}{b}=-2\left(a^2+b^2\right)$

OR

Find the real numbers x & y ,if (x-iy)(3+5i) is the conjugate of -6-24i.

SECTION D
(LONG ANSWERS)
Each question carries 5 mark

Q29. Let A, B & C be the sets such that $A\cup B = A\cup C$ & $A\cap B = A\cap C$. Show that $B = C$.

Q30. The sum of two numbers is 6 times their G.M. Prove that numbers are in ration is $\left(3+2\sqrt{2}\right):\left(3-2\sqrt{2}\right)$

Q. 31 Find the value of $\tan\frac{\pi}{8}$

Prove that $\cos 6x = 32\cos^6 x-48\cos^4 x+18\cos^2 x-1$

CASE BASED-1

Some students decides to go on a tour. There are total 25 students out of which 10 would like to go on tour.

There are 3 friends- Bhavishya, Ankit and Anujesh who decide that either all of them will go or none of them will go the tour.

Based on the above information, answer the following questions.

(i) In how many ways can the students go on tour, if these three friends will not go?

(ii) In how many ways can the students go on tour, if these three friends will go?

(iii) In how many ways can the students go on tour?
OR
In how many ways can the students go on tour if there is no restriction?

CASE BASED-2

Ordered Pairs:

The ordered pair of two elements a & b is denoted by (a,b): a is the first element and b is the second element.

Two orderd pairs are equal if their corresponding elements are equal i.e (a,b)=(c,d) $=>$a=c & b=d.

Cartesian Product of Two Sets:

For two non-empty sets A & B, the Cartesian product AxB is the set of all ordered pairs of elements from sets A and B.

In symbolic form, it can be written as AxB={(a,b): $a \in A, b \in B$}

Base upon the above topics,answer the following questions.

(i) If $(a+2, b-6) = (-2,3)$, find the value of a & b.

(ii) If $(x+5, -4) = (3-y, 2x+y)$, find the value of x & y.

(iii) Let A & B be two sets such that AxB consists of 6 elements. If three elements of AxB are (1,4),(2,6) and (3,6), then show that (AxB≠BxA)
OR
Let A & B be two sets such that AxB consists of 6 elements. If three elements of AxB are (1,4),(2,6) and (3,6), then find AxB & BxA. Also check whether n(AxB)=n(BxA)

CLASS: XII (PHYSICS)

Chapter 1: Electric charge & field

1. State Coulomb's law of electrostatics.
2. What is electric field intensity? Write its S.I. unit. Draw the electric field lines for (i) $q>0$ (ii) $q<0$ (iii) two equal positive charges (iv) Electric diploe (v) Uniform electric field.
3. What is an electric dipole? Define dipole moment. Write its S.I. unit. Derive an expression for electric field due to dipole (i) At axial point (ii) At equatorial point. 4. Derive an expression for torque acting on dipole in an external electric field.
5. Define electric flux. Either electric flux is a scalar or vector quantity? Write its S.I. unit.
6. State gauss's theorem & use it to derive an expression for electric field due to infinitely long charged straight wire of linear charge density λ. Draw the graph showing the variation of electric field with distance.
7. Derive an experience for electric field due to a uniformly charged spherical shell of radius 'R' at (i) outside the sphere ($r>R$) and inside the sphere ($r<R$). Draw the graph showing the variation of electric field with distance.
8. State gauss's theorem & use it to derive an expression for electric field due to infinitely charged plane sheet of surface charge density σ. Draw the graph showing the variation of electric field with distance.

Chapter 2: Electric potential & capacitance

1. Define electric potential & electric potential difference. Write its S.I. unit. Derive expression for electric potential due to (i) a point charge (ii) electric dipole

2.Derive and expression for potential energy of a two charges system q_1 and q_2 placed in a uniform electric field.

3.Derive an expression for work done in a rotating a dipole in a uniform electric field and hence find the expression for potential energy in this case.

4.Draw equipotential surface for (i) positive point charge ($q>0$) (ii) negative point charge ($q<0$) (ii) two equal positive charges (iii) Electric diploe and (v) uniform electric field.

5.Define electrical capacitance. Write its S.I. unit. State the principle of parallel plate capacitor. Derive an expression for its capacitance.

Chapter 3: Current electricity

1. Define drift velocity and relaxation time and derive an expression for drift velocity in terms of relaxation time.
2. Using the concept of free electron of free electrons in the conductor, derive the expression for resistivity/conductivity of a wire in terms of number density and relaxation time. Hence obtain the relation between current density and the applied electric field.
3. Define internal resistance of cell. On which factors internal resistance of a cell depends. Derive relation between emf and terminal potential of cell.

4. Two cells of emfs E_1 & E_2 and internal resistance r_1 & r_2 are connect in parallel. Find the expression for equivalent e.m.f. and internal resistance.

5.Draw the graph between resistivity and temperature for (i) copper (ii) nichrome and (iii) semiconductor.

6.State Kirchhoff's laws for an electrical circuit. Which physical quantities are conserved in Kirchhoff's laws?

7.What is Wheatstone bridge? Find the condition of balance Wheatstone bridge using Kirchhoff's laws.

Chapter 4: Moving Charges & Magnetism

1. State Bio-Savart's law. Write its vector form. Derive an expression for magnetic field at axial point of a current carrying circular coil.
2. State Ampere's law. Apply it to find magnetic field due to (i) infinitely long straight current carrying wire (ii) Straight Solenoid
3. Derive expression for force between two infinitely long straight current carrying wires. Hence define ampere.
4. Derive an expression for the torque acting on a loop of N turns area **A**, carrying current I, when held in a uniform magnetic field **B** at an angle θ.
5. On which principle moving coil galvanometer works. Explain construction, theory and working of moving coil galvanometer (with labeled diagram). How galvanometer is converted into (i) Ammeter (ii) Voltmeter. Explain with circuit diagram in each case.

Chapter 5 : Magnetism & Matter

1. Explain the properties of para, dia and ferro-magnetic substances. Write the examples of each.
2. Draw the magnetic field lines pattern when (i) diamagnetic material and (ii) para magnetic material placed in a magnetic field.
3. Name the magnetic material whose magnetic susceptibility is (i) small and negative (ii) small and positive and (iii) very large and positive.
4. How will the magnetic susceptibility of (i) diamagnetic material and (ii) paramagnetic material vary with temperature.
5. Derive an expression for magnetic moment of revolving electron.

Chapter 6: Electromagnetic Induction

1. State Faraday's law of electromagnetic induction and Lentz' law.
2. Define magnetic flux. Either this quantity is scalar or vector? Write its S.I. unit.
3. Define self-inductance. Derive an expression for self inductance of a long straight solenoid. On which factors self-inductance of solenoid depends?
4. Define mutual inductance. Derive an expression for mutual inductance of two long straight solenoids. On which factors mutual inductance of two solenoids depends? **Chapter 7: Alternating Current**

1. (a) Define(i) inductive reactance (ii) capacitive reactance and (iii) impedance. (b) Draw the graph between (i) X_L and frequency (ii) X_C and frequency.
2. Find the expression for impedance in the circuit when resistor, inductor and capacitor are connected in series with AC source. Explain resonance condition.

3. Describe the principle, construction and working of AC generator with a neat labeled diagram.
4. Explain the construction, principle and theory of transformer. Write about different losses of transformer.

Chapter 8: Electromagnetic waves

1. Draw diagram of electromagnetic wave propagating in x-direction.
2. What is the relation between E and B for an electromagnetic wave propagating in vacuum?
3. What is displacement current? Write its expression.
4. Electromagnetic Spectrum: (Radio, micro, infrared, visible, uv, x-ray and gamma rays) Frequency, wavelength and uses(applications).

Chapter 9: Ray Optics

1. A ray of light when moves from denser to rarer medium undergo total internal reflection. Drive the expression for critical angle in terms of speed of light in the respective media. Write the conditions for T.I.R.
2. What is optical fiber? Draw its diagram. Write its uses.
3. Draw the ray diagram for a right angled isosceles prism when incident ray (i) deviates through 90^0 and (ii) deviate through 180^0
4. Derive mirror formula. Define linear magnification.
5. Draw the ray diagram for a prism. Derive and expression for refractive index of prism in terms of angle of minimum deviation.
6. Trace the rays of light showing the formation of an image due to a point object placed on the axis of a spherical surface separating the two media of refractive indices n_1 and n_2. Establish the relation between the distances of the object, the image and the radius of curvature from the central point of the spherical surfaces. Derive the lens-maker's formula in case of a double convex lens. State the assumptions made and convention of signs used.
7. Draw a labeled ray diagram to show the formation of an image by a compound microscope (i) When final image formed at the least distance of distinct vision and (ii) when final image is formed at infinity (normal adjustment). Write the expressions for its magnifying power in each case.
8. Draw a labeled ray diagram to show the formation of an image by a refracting telescope (Astronomical telescope) (i) When final image formed at the least distance of distinct vision and (ii) when final image is formed at infinity (normal adjustment). Write the expressions for its magnifying power in each case.
9. Draw a labelled diagram of a reflecting type telescope (Cassegrain telescope). Write four advantages of a reflecting type telescope over a refracting type telescope.

Chapter 10: Wave Optics

1. What is wave front. State Huygens's principle and use it to prove laws of reflection and laws of refraction (Snell's law).
2. What are coherent sources of light? Two slits in Young's double slit exp. are illuminated by two different sodium lamps emitting light of the same Wavelength. Why is no interference pattern observed?
3. Draw the graph showing intensity distribution in young's double experiment.

4. What is the effect on the interference pattern observed in a Young's double slit experiment in the following cases:
   i) Screen is moved away from the plane of the slits, ii) Separation between the slits is increased, and iii) Widths of the slits are doubled, Give reasons for your answer.
5. What is diffraction of light? Discuss single slit experiment for diffraction. Draw the graph to show the relative intensity distribution for a single slit diffraction pattern. Obtain the expression for the width of central maxima.

Chapter 11: Dual nature of Radiation & Matter

1. Define (i) work Function (ii) Threshold frequency (iii) stopping potential
2. Write the name the phenomena which explains the quantum/particle nature of radiation.
3. Show on a plot the nature of variation of photoelectric current with the intensity of radiation incident on a photosensitive surface.
4. Plot a graph showing the variation of photoelectric current as a function of anode potential for two light beams having the same frequency but different intensities I_1 and I_2 ($I_1 < I_2$).
5. Draw a plot showing the variation of photoelectric current with collector plate potential for two different frequencies, $v_1 < v_2$, of incident radiation having the same intensity. In which case will the stopping potential be higher? Justify your answer.
6. Draw a graph showing the variation of stopping potential with frequency of incident radiation for two photosensitive materials having work functions W_1 and W_2 ($W_1 < W_2$).
7. State laws of photoelectric emission.
8. Write the Einstein's photelectric equation. Write Einstein's theory which explain the photoelectric effect.
9. (i) What is the effect on photoelectric current if we increase (a) Intensity of light (b) Frequency of incident radiation? Justify your answer.
   (ii) What is the effect on kinetic energy of electrons if we increase (a) Intensity of light (b) Frequency of incident radiation? Justify your answer.
10. Derive the Bohr's quantization condition for angular momentum of the orbiting of electron in hydrogen atom, using de Broglie's hypothesis. Draw diagram.
11. Why photoelectric effect cannot be explained on the basis of wave nature of light? Give two reasons.
12. Plot a graph showing variation of de-Broglie wavelength λ versus $1/\sqrt{V}$, where V is accelerating potential for two particles A and B carrying same charge but of masses m_1, m_2 ($m_1 > m_2$). Which one of the two represents a particle of smaller mass and why?

Chapter 12: Atoms

1. Draw the diagram of Geiger-Marsden experiment (alfa scattering experiment). Derive an expression of distance of closeted approach(r_0) in this experiment.
2. State bohr's postulates of atomic theory or Hydrogen atom. Drive an expression for (i) The radius of orbit. (ii) Total energy of electron in nth orbit.
3. THE total energy of and electron in the first excited state of hydrogen atom is -3.4 eV. Calculate

(1) K.E. of the electron in this state.
(2) P.E. of the electron in this state and
(3) Which of the answer would change of the choice. Justify your answer?

4. Draw a neat labeled energy level diagram and explain the different series of spectral lines for the hydrogen atom.

Chapter 13: Nuclei

1. Write an expression for radius of nucleus (size of nucleus). If ratio of mass number of two nuclei is 8: 125, then find the ratio of their radii.
2. What is the ratio densities of two nuclei if ratio of their radii is 27:125?
3. What is the amount of energy in 1 atomic unit mass in eV?
4. Define (i) mass defect (ii) nuclear binding energy (iii) nuclear binding energy per nucleon.
5. Draw a graph showing the variation of binding energy per nucleon with mass number for different nuclei. Explain, with the help of this graph, the release of energy by the process of nuclear fission and fusion.
6. What is nuclear force? Write four properties of nuclear force. Draw the graph showing the variation in potential energy of any two nucleon and distance between them.

Chapter 14: Semiconductor Electronics: Material, Devices and Simple Circuits

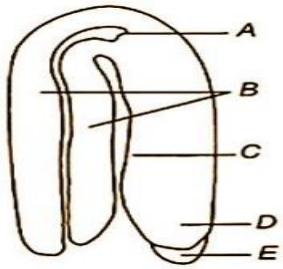
1. What are energy bands? Distinguish between a conductor, an insulator and a semiconductor on the basis of energy band diagram.
2. What is the ratio of hole and electron concentration (**number density**) in intrinsic semiconductor?
3. At what temperature intrinsic semiconductor behaves like insulator?
4. Name the extrinsic semiconductor in which (i) hole concentration is greater than electron concentration and (ii) electron concentration is greater than hole concentration.
5. Name the extrinsic semiconductor formed by adding the impurities from (i) 13 group (B or In or Al) of periodic table and (ii) 15 group (As or P or Sb) of periodic table.
6. Draw energy Band diagram for n and p type semiconductors.
7. Explain formation of depletion region p-n junction. Define (i) potential barrier and (ii) depletion region. Write two important terms involved in the process of formation of depletion region.
8. How does its width change when the junction is at
   (i) Forward biased, and (ii) reverse biased Explain with diagram?
9. Explain (i) forward biasing, (ii) reverse biasing of a P-N junction diode with the help of a circuit diagram, also draw its characteristic curve for (i) forward biasing, (ii) reverse biasing of a P-N junction diode
   10.Explain the use of a p-n junction diode as a rectifier. Draw the circuit diagram of a full wave rectifier/half wave and explain its working. Draw the input and output wave form.

AUTUMN HOLIDAY HOMEWORK 2024-25

CLASS- 12 A BIOLOGY

CHAPTER 1- Sexual reproduction in flowering plants

1. . Draw a longitudinal section of the pistil from a flowering plant, where pollination has occurred. Label the following : (a) Stigma showing germinating pollen grains (b) Style (c) Pollen tube reaching the micropyle of the ovule (d) Embryo sac (e) Components of the egg apparatus.
2. a) Identify the figure given below and also identify the parts B, C, D, and E.



b) State the function of E.

3. (a) Can a plant flowering in Mumbai be pollinated by pollen grains of the same species growing in New Delhi? Provide explanations to your answer. (b) Draw the diagram of a pistil where pollination has successfully occurred. Label the parts involved in reaching the male gametes to its desired destination.

4. Why are angiosperm anthers called dithecous? Describe the structure of its microsporangium.

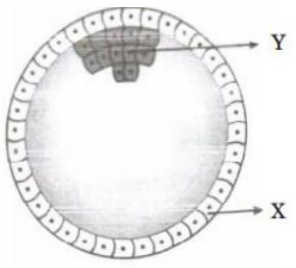
5. Give three outbreeding devices adapted by the flowering plants to encourage cross pollination.

6. Double fertilisation is an event unique to all flowering plants. Explain the process.

7. From which end of the ovule, and how does the pollen tube gain its entry into the embryo sac of a Hibiscus flower. State the fate of the male nuclei present in the pollen tube

CHAPTER 2- HUMAN REPRODUCTION

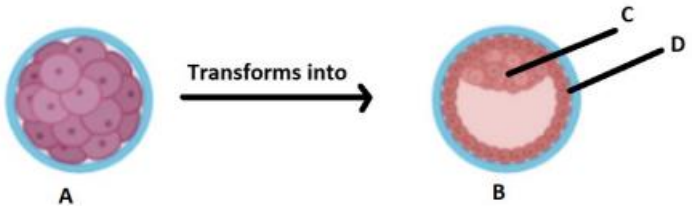
1. The diagram given below shows a developmental stage of human embryo. Answer the following questions with reference to it:



(a) Identify and name the human embryonic stage shown.
(b) Mention its exact location in the normal pregnancy of a woman.
(c) Write one function of each of the two parts labelled ‘X’ and ‘Y’.

2. Why are human testes located outside the abdominal cavity? Name the pouch where they are present?

3. Explain the following phases in the menstrual cycle of a human female: (i) Menstrual phase (ii) Follicular phase (iii) Luteal phase
4. . (a) Draw the sectional view of a seminiferous tubule of humans. Label it's six parts.
   b) Name the pituitary hormones involved in the process of spermatogenesis. State their functions.
   5. Study the given diagram



A is an embryonic stage that gets transformed into B, which in turn gets implanted in the endometrium in human females. (a) Identify A, B, and its parts C and D. (b) State the fate of C and D in the course of embryonic development in humans.

6. Draw a sectional view of the human ovary showing the different stages of developing follicles, corpus luteum and ovulation.

CHAPTER 3- REPRODUCTIVE HEALTH

1. IUDs are said to be effective contraceptives. Name any two commonly used IUDs and write the mode of their actions.
2. When is sterilization advised to married couples? How is it carried out in a human male and a female, respectively?
3. (i) Expand the abbreviations given below, used for different modes of assisted reproductive technologies: 2 (1) ZIFT (2) ICSI (3) IUT (4) GIFT. Which one of them cannot be considered as procedure of IVF? Give reasons in support of your answer.
4. What is Amniocentesis Test?
5. Lactational amenorrhea is a contraceptive method. List two advantages.
6. Explain any two sexually transmitted diseases and suggest ways to prevent them.

CHAPTER 4- PRINCIPLES OF INHERITANCE AND VARIATION

1. (i) A true-breeding tall pea plant with round seeds is crossed with a recessive dwarf pea plant having wrinkled seeds. Work out the cross up to F2 generation giving the phenotypic ratios of F1 and F2 generation respectively.
2. A homozygous tall pea plant with green seeds is crossed with a homozygous dwarf pea plant with yellow seeds. Write the possible phenotype and genotype of F1 generation
3. Mention any two contrasting characters of seeds of pea plant studied by Mendel.
4. In Snapdragon, a cross between true breeding red flowered (RR) plants and true-breeding white flowered (rr) plants showed a progeny of plants with all pink flowers.
   a) The appearance of pink flowers is not known as blending. Why?
   b) What is this phenomenon known as?
5. What is aneuploidy? Name a chromosomal disorder in humans caused due to (a) gain of an autosome, and (b) loss of a sex chromosome in females.
6. A normal couple has their first child, who is haemophilic. Work out a cross to show how it is possible. State the possibility of the normal and the hemophilic children, along with their sexes, that can be born to them.
7. Both Haemophilia and Thalassemia are blood related disorders in humans. Write their causes and the difference between the two. Name the category of genetic disorder they both come under

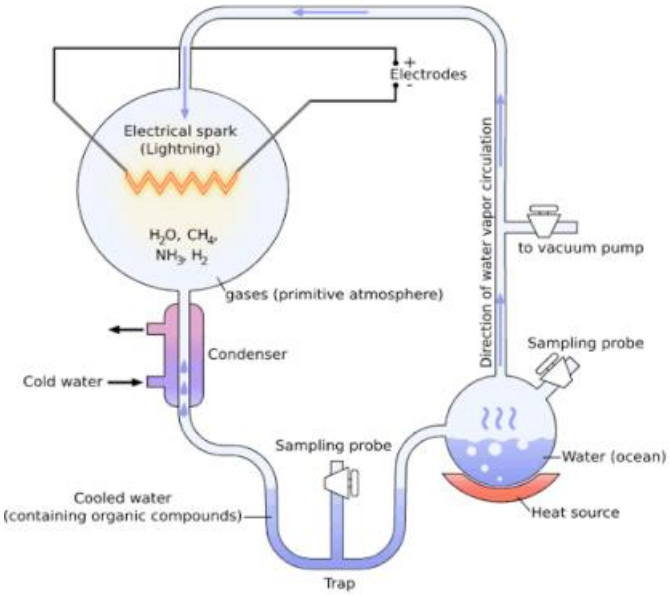
CHAPTER 5- MOLECULAR BASIS OF INHERITANCE

1. State a functional difference between the following codons:
   a) AUG and UAA
   b) Specific and degenerate
2. Explain the mechanism of DNA replication with the help of a replication fork. What role does the enzyme ONA-ligase play in a DNA replication fork?
3. Construct and label a transcription unit from which the RNA segment given below has been transcribed. Write the complete name of the enzyme that transcribed this RNA.

4. (a) Describe the structure and function of a t-RNA molecule. Why is it referred to as an adapter molecule? (b) Explain the process of splicing of hn-RNA in a eukaryotic cell
5. Write the different components of a lac-operon in E. coli. Explain its expression while in an ON state.
6. (i) How many types of RNA polymerases are there in a eukaryote cell? Mention which one of them transcribes hnRNA. ii) Write the changes that hnRNA undergoes before it leaves the nuvleas as mRNA.
7. (a) Meselson and Stahl carried out an experiment to prove the nature of DNA replication. Recall the experiment and answer the following questions. (i) Which two types of nitrogen were used by them in their experiment and why? ii) State the role of cesium chloride density gradient in their experiment.
8. What is cistron?

CHAPTER 6- EVOLUTION

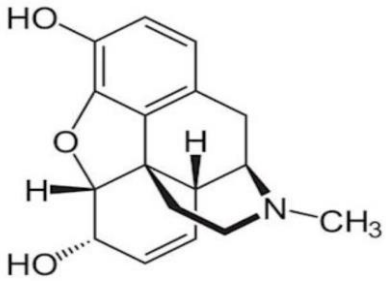
1. Study the diagrammatic representation of S.L. Miller's experiment given below and answer the questions that follow:



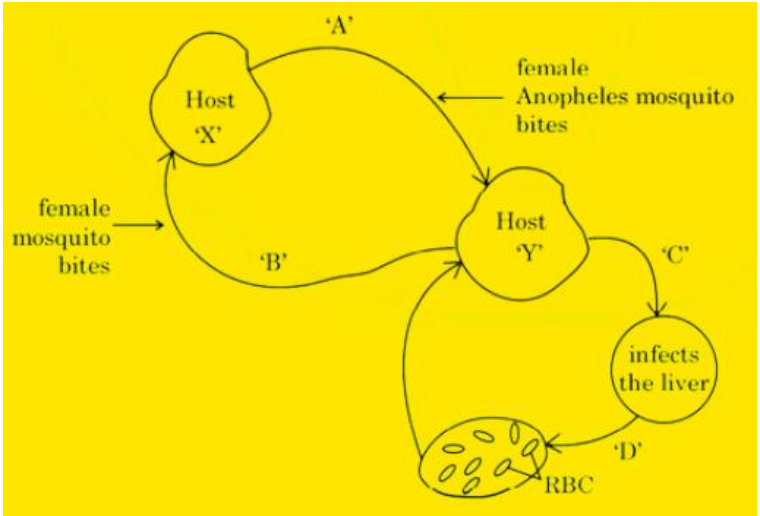
   (a) How did S.L. Miller create the conditions which existed before the origin of any life on Earth?
   (b) Name the organic compound formed and collected at the end of his experiment.
2. Write the characteristics of Ramapithecus, Dryopithecus and Neanderthal man.

3. Name the type of evolution that has resulted in the development of structures like wings of butterfly and bird. What are such structures called?
4. What is Hardy-Weinberg equation? Explain.
5. (i) Differentiate between analogous and homologous structures.
   (ii) Select and write analogous structures from the list given below.
   (a) Wings of butterfly and birds
   (b) Vertebrate hearts
   (c) Tendrils of Bougainvillea and Cucurbita
   (d) Tubers of sweet potato and potato.

CHAPTER 7- Human health and disease

1. (i) What is the chemical name of 'smack'? Why is the consumption of smack considered as an abuse?
   (ii) Name the source plant and one effect of the following drugs on the human body:
   (1) Marijuana, (2) Cocaine, (3) Morphine
2. (a) Differentiate between malignant and benign tumours. (b) Name and explain the most feared property of a malignant tumour.
3. Why is secondary immune response more intense than primary immune response?
4. 

   (a) Name the category of drugs represented by the chemical structure given above.
   (b) If the methyl group is substituted by acetyl group we get a bitter crystalline compound. Name the compound.
   (c) Name the natural source of these compounds.
5. The diagram shows the life cycle of a pathogenic protozoan



   (i) Name the parasitic stage that is being transferred from host 'X' to host 'Y'.
   (ii) Write the changes the parasite undergoes in the liver.
   (iii) Write the changes the parasite undergoes when it enters the RBC.
   (iv) At which stage during the life cycle of the pathogen does the host 'Y' experience the symptoms of the disease? Name the disease and the toxic substance responsible for these symptoms.

6. Differentiate between the roles of B-lymphocytes and T-lymphocytes in generating immune responses.
7. Name the type of immunity the mother provides the newborn baby. How does it happen?

CHAPTER 8- MICROBES IN HUMAN WELFARE

1. What are 'flocs', formed during secondary treatment of sewage?
2. Write any two places where methanogens can be found.
3. How is a continuous culture system maintained in bioreactors and why?
4. : Name the group of bacteria involved in setting milk into curd. Explain the process they carry in doing so. Write another beneficial role of such bacteria.
5. Treatment of wastewater is done in a sewage treatment plant to make it less polluting. Explain the following with reference to this treatment process: (a) Primary sludge (b) Activated sludge (c) Anaerobic sludge digesters
6. Secondary treatment of the sewage is also called Biological treatment. Justify this statement and explain the process.
7. Name the type of immunity the mother provides the newborn baby. How does it happen?

CHAPTER 9- BIOTECHNOLOGY PRINCIPLES AND ITS PROCESSES

1. Describe the roles of heat, primers and the bacterium Thermus aquaticus in the process of PCR.
2. (a) Explain the significance of palindromic nucleotide sequence in the formation of recombinant DNA. (b) Write the use of restriction endonuclease in the above process.
3. (a) List the two methodologies which were involved in human genome project. Mention how they were used. (b) Expand 'YAC' and mention what it was used for.
4. Describe the formation of recombinant DNA by the action of EcoRI.
5. (a) Answer the following questions with respect to recombinant DNA technology:
   (i) Why is plasmid considered to be an important tool in rDNA technology? From where can plasmids be isolated? (Any two sources)
   (ii) Explain the role of 'ori' and selectable marker in a cloning vector.
   (iii) "r-DNA technology cannot proceed without restriction endonuclease." Justify.
6. What is pBR322? Explain with diagram.
7. Why is beta galactosidase a preferred selectable marker?
8. (a) 'Insertional inactivation' is a method to detect recombinant DNA. Explain the method.

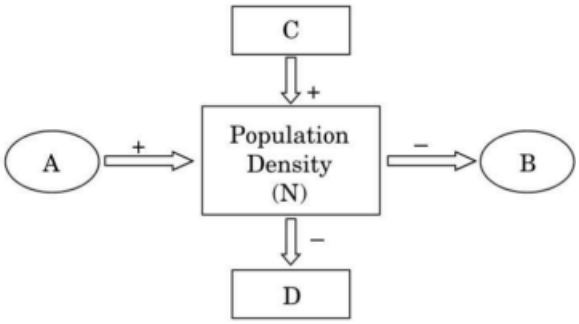
CHAPTER 10- BIOTECHNOLOGY AND ITS APPLICATIONS

1. Answer the following questions based on Bt-crops: (i) Why do farmers prefer to grow Bt cotton crop than genetically unmodified cotton crops? (ii) Name any two insects that are killed by Bt toxin. (iii) Explain the mechanism by which Bt toxin kills the insects but not the bacterium which possesses the toxin.
2. A) why must a cell be made competent in biotedchnology experiments? How does calcium ion help in doing so? B) state the role of b biolistic gun in biotechnology experiments.
3. Explain enzyme-replacement therapy to treat adenosine deaminase deficiency. Mention two disadvantages of this procedure.
4. When Bacillus thuringiensis enters certain insect's body, the insect gets killed, but itself remains unaffected. Explain how it is possible.
5. Explain the various steps involved in the production of artificial insulin.
6. Draw a schematic diagram of a bioreactor.

7. a) Write the scientific name of the nematode that infests the tobacco plants and the part that it infests. (b) How is Agrobacterium used to protect tobacco plants from this attack?

CHAPTER 11- ORGANISMS AND POPULATIONS

1. Explain the following population interactions with the help of one example each: (a) Brood Parasitism (b) Co-evolution of mutualists
2. Study the schematic representation given above and answer the following questions



(a) Identify A in it
(b) Identify D in it
(c) When the population density at time t is N as shown above, write the population density at time t + 1 in the form of an equation using appropriate symbols.

3. Highlight the differences between exponential growth curve and logistics growth curve.
4. . (a) Compare, giving reasons, the J-shaped and S-shaped models of population growth of a species. (b) Explain 'fitness of a species'' as mentioned by Darwin.

CHAPTER 12- ECOSYSTEM

1. Describe the inter-relationship between productivity, gross primary productivity and net productivity.
2. (a) What is an ecological pyramid? Compare the pyramids of energy, biomass and numbers. (b) Write any two limitations of ecological pyramids.

English Core Holiday Home work Class 12

Answer the following 2-Mark questions in 40 50 words each:-2024

(i) We miss a thing when we are in fear of losing it. Substantiate this statement with 2 examples from The Last Lesson how the people in the story suddenly realised how precious their language was to them.

(ii) What did the peddler say in his defence when it was clear that he was not the person the ironmaster thought him to be ? (The Rattrap)

(iii)What does 'The God That Failed refer to? (Poets and Pancakes)

(Iv) What according to Umberto Eco is the belief that most journalists and publishers have ? (The Interview)

(v) It is said that the "Face is a mirror of one's emotions'. Why did the poet smile and smile? (My Mother at Sixty-six)

(Vi) What confusion does the Dewan have when the Tiger King broaches the topic of his marriage ? (The Tiger King)

(Vii) My Antarctic experience was full of such epiphanies, says Tishani Doshi. Which experience does she consider the best and why ? (Journey to the End of the Earth)

Answer the following 2-Mark questions in 40 50 words each:-2023

(a) What were Franz's feelings as he set out for school and why?

(b) What vicious circle are the bangle-makers trapped in ?

(c) What were Douglas's initial thoughts when he was pushed into the YMCA pool?

(d) Who was Edla Williamson ? Why did she visit the forge at night ?

e) In what way did the infant Tiger King surprise the astrologer ?

(f) What did Charley find in his collection of first day covers ?

Answer the following 2-Mark questions in 40 50 words each:-2022

i)ow did Gandhi try to improve the cultural and social backwardness of people living in Champaran villages?

(ii) What made the rattrap peddler resort to begging and petty thievery?

(iii) What are the things of beauty that the poet mentions in the poem?

Iv) Why did the peddler sign himself as Captain Von Stahle ?

(V)What prompted Gandhi to readily agree to a settlement of 25 percent refund to the farmers ?

(Vi) Mention things that cause suffering and pain to human beings. (A Thing of Beauty)

Vii) Why did the peddler derive pleasure from his idea of the world being A Rattrap

(viii) In the Motihari court, what caused the delay in the trial ?

(ix) Why are the lovely tales called an endless fountain in the poem A thing of Beauty

Holiday Homework

Python Revision Tour

Q1) What do you understand by local and global scope of variables? How can you access a global

variable inside the function, if function has a variable with same name.

Q2) Write a statement in Python to declare a dictionary whose keys are 1, 2, 3 and values are Monday,

Tuesday and Wednesday respectively.

Q3) Name the built-in mathematical function / method that is used to return an absolute value of a

number.

Q4) Given a Tuple tup1= (10, 20, 30, 40, 50, 60, 70, 80, 90).

What will be the output of print

(tup1 [3:7:2])?

a. (40,50,60,70,80)

b. (40,50,60,70)

c. [40,60]

d. (40,60)

Q5) Which of the following operator cannot be used with string data type?

a. + b. in c. * d. /

Q6) Consider a tuple tup1 = (10, 15, 25, and 30). Identify the statement that will result in an error.

a. print(tup1[2])

b. tup1[2] = 20

c. print(min(tup1))

d. print(len(tup1))

Q7) Which of the following components are part of a function header in Python?

a. Function Name

b. Return Statement

c. Parameter List

d. Both a and c

Functions

Q1) Write a Python program to create a user-defined function factorial(n) that calculates the

factorial of a number.

Q2) Write a Python program to demonstrate the use of positional and default parameters in a function

that calculates the area of a rectangle.

Q3) Write a Python program to demonstrate the use of positional and default parameters in a function

that calculates the area of a rectangle.

Q4) Find the Output:

```
def add(x, y=10):
    return x + y

print(add(5))
print(add(5, 15))
```

Q5) Find the Error:

```
def display():
    print("Hello!")
display(10)
```

Q6) Write a Python function max_of_three(a, b, c) that returns the largest of three numbers.

Q7) Describe the flow of execution when a Python program with multiple function definitions is executed. Illustrate with a simple example program.

Exception Handling

Q1) Find the Error:

```
try:
```

```
        num = int(input("Enter a number: "))
except:
        print("Invalid input!")
finally:
        print("This will always execute.")
print("Program ended.")
```

Q2) Write a Python program to handle a ZeroDivisionError exception using try-except blocks.

Q3) What is the purpose of the finally block in exception handling? Illustrate with an example.

Q4) Find the Output:

```
try:
        num = int("Hello")
except ValueError as e:
        print(e)
finally:
        print("End of program")
```

Q5) Write a Python program that raises a ValueError exception if the user enters a negative number.

Q6) What is an exception? Explain the difference between syntax errors and exceptions.

File Handling

Q1) Python program to read a text file line by line and print each line to the console.

Q2) Find the Error:

```
f = open("data.txt", "w")
f.write("Hello, world")
f.close()
f.read()
```

Q3) Write a Python program to count the number of words in a text file.

Q4) Write a Python program to create a binary file and store a list of integers using the pickle

module.

Q5) Find the Output:

```
import pickle
data = {"name": "John", "age": 25}
with open("data.bin", "wb") as f:
pickle.dump(data, f)
with open("data.bin", "rb") as f:
        print(pickle.load(f))
```

Q6) Write a Python program to read a binary file and display its contents using the load() method of the pickle module.

Q7) Write a Python program to read a CSV file and print the contents row by row using the csv.reader() method.

Q8) Find the Output:

```
import csv
with open('data.csv', 'w', newline='') as f:
        writer = csv.writer(f)
        writer.writerow(["ID", "Name", "Age"])
  writer.writerow([1, "Alice", 30])
  writer.writerow([2, "Bob", 25])
with open('data.csv', 'r') as f:
  reader = csv.reader(f)
  for row in reader:
    print(row)
```

Database Concepts

Q1) Write an SQL query to create a table Employee with columns EmpID, Name, Salary, and

DeptID. Set EmpID as the primary key.

Q2) Write an SQL query to insert the following records into the Employee table:

(101, 'John', 50000, 1), (102, 'Jane', 60000, 2), (103, 'Alice', 55000, 1)

Q3) Write an SQL query to update the salary of the employee with EmpID = 101 to 55000.

Q4) Find the Error:

```
CREATE TAB Employee(
EmpID INT PRIMARY KEY,
```

```
Name VARCHAR(50),
Salary FLOAT,
DeptID INT;
)
```

Q5) Explain the difference between PRIMARY KEY and FOREIGN KEY in SQL. Provide an

example of a table schema that uses both.

Q6) Write an SQL query to select all employees whose salary is greater than 55000 and display

their EmpID and Name only.

Q7) Write an SQL query to perform a natural join between the Employee table and a

Department table on DeptID.

Informatic Practices

Series

Q1) What is a Series in Python Pandas? Also, give a suitable example to support your answer.

Q2) Find the Output:

```
import pandas as pd
data = {'a': 1, 'b': 2, 'c': 3}
s = pd.Series(data)
print(s.head(2))
print(s.tail(1))
```

Q3) Explain how slicing works in a Pandas Series. Provide an example of

selecting elements by index and using conditional indexing.

Q4) Write a Python program to create a Pandas Series from a dictionary and access elements using indexing.

Q5) Find the Error:

```
import pandas as pd
s = pd.Series([1, 2, 3, 4])
print(s[4])
```

Q6) Explain the difference between creating a Series from an ndarray and
from a dictionary. Give examples of both.

DataFrame

Q1) Write a Python program to create a Pandas DataFrame from a list
of dictionaries and display the first 5 rows using the head() functio

Q2) Find the Output:

```
import pandas as pd
data = {'A': [1, 2, 3], 'B': [4, 5, 6]}
df = pd.DataFrame(data)
print(df['A'].mean())
df['C'] = df['A'] + df['B']
print(df)
```

Q3) Write a Python program to read data from a CSV file into a Pandas DataFrame and rename a column.

Q4) Find the Error:

```
import pandas as pd
df = pd.DataFrame({'Name': ['Tom', 'Jerry'], 'Age': [20, 22]})
df['Gender'] = 'Male'
df = df.drop('Age')
print(df)
```

Q5) Explain the difference between Boolean Indexing and Indexing using Labels in Pandas. Illustrate with an example.

Q6) Write a Python program to add a new row to a DataFrame and delete an existing row.

Data Visualization

Q1 Write a Python program using Matplotlib to create a line plot for the given data: x = [1, 2, 3, 4, 5] and y = [10, 20, 30, 40, 50]

Q2) Find the Output:

```
import matplotlib.pyplot as plt
x = [1, 2, 3, 4]
y = [10, 15, 25, 30]
plt.plot(x, y)
plt.title('My Plot')
plt.xlabel('X-axis')
plt.ylabel('Y-axis')
plt.show()
```

Q3) Explain the purpose of a bar graph and how it differs from a histogram. Provide examples of when to use each.

Q4) Write a Python program using Matplotlib to create a bar graph that displays the sales of three products (Product A, B, and C) for five months.

Q5) Find the Error

```
import matplotlib.pyplot as plt
plt.hist([10, 20, 30, 40], bins=5)
plt.title('Histogram')
plt.xlab('Value')
plt.ylab('Frequency')
plt.show()
```

SQL Functions and Queries

Q1) Write a query to find the remainder when 45 is divided by 7 using
the MOD() function.

Q2) Find the Output:
SELECT UCASE('welcome to SQL') AS UppercaseString;
Q3) Explain the difference between SUBSTRING() and LEFT() functions. Provide an SQL example for each.

Q4) Write an SQL query to extract the year from the date '2023-10-07'
using the YEAR() function.

Q5) Write a query to calculate the average salary of employees grouped by their department using GROUP BY and AVG().

Networking and Web Concepts

Q1) Explain the difference between PAN, LAN, MAN, and WAN, with
an example of where each type of network is used.

Q2) What are the roles of a router and a gateway in a network? Explain with a real-world example.

Q3) A small business is setting up a local network and wants to ensure that communication between devices is efficient. Which network topology should they use? Justify your answer.

Q4)Explain the difference between a static and dynamic web page. Provide examples of when each type would be preferable.

Q5) Write HTML code for a simple webpage that includes a title, heading, and paragraph, and demonstrate the use of an external
CSS file.

Sub : Mathematics Class : XII

General Instructions :

(i) All the questions are compulsory.

(ii) There are 5 sections i.e. sections A, B, C , D and E respectively; Section A carry 1 mark each. Section B carry 2 marks each , Section C carry 3 marks each , Section D carry 5 marks each and section E is cased based study carrying 4 marks each.

Section A

1 The function $f(x) = [x]$ is continuous at 1

(a) 4 (b) -2 (c) 1 (d) $\frac{3}{2}$

(b)

2 The value of $\begin{vmatrix} cos15^0 & sin15^0 \\ sin15^0 & cos15^0 \end{vmatrix}$ is 1

(a) 1 (b) ½ (c) $\frac{\sqrt{3}}{2}$ (d) 0

3 The number of equivalence relation on the set A ={ 1, 2,3 } containing (1,2) and (2,1) is 1

(a) 0 (b) 1 (c) 2 (d) 3

4 Let A be a square matrix of order 3 such that $A(adjA) = 5I$, where I is the identity matrix , then the value of $|AdjA|$ is 1

(a) 8 (b) 25 (c) 9 (d) 26

5 The function $f(x) = |sinx|$ is 1

(a) Everywhere differentiable

(b) Everywhere continuous but not differentiable at $x = n\pi \ , n \in Z$

(c) Everywhere continuous but not differentiable at $x = \frac{\pi}{2}$

(d) None of the above

6 If Matrix $A = [a_{ij}]$ is a 2 × 2 matrix where $a_{ij} = \begin{cases} 1 & if \quad i \neq j \\ 0 & if \quad i = j \end{cases}$ 1

Then A^2 is equal to

(a) I (b) A (c) 0 (d) not defined

7 The probability obtaining an even prime number on each die , when a pair of dice is rolled is 1

(a) 0 (b) $\frac{1}{3}$ (c) $\frac{1}{12}$ (d) $\frac{1}{36}$

8 If a line makes an angle $\frac{\pi}{3}$ and $\frac{\pi}{4}$ with x axis and y axis respectively , then the angle made by line with z- axis is

(a) $\frac{\pi}{2}$ (b) $\frac{\pi}{3}$ (c) $\frac{\pi}{4}$ (d) $\frac{\pi}{6}$

9 If A is a square matrix order $m \times n$ and B is a square matrix such that AB^T and B^TA bot are defined , then the order of the matrix B is 1

(a) $m \times m$ (b) n× n (c) n× m (d) $m \times n$

10 If the matrix $\begin{bmatrix} a & b & c \\ b & c & a \\ c & a & b \end{bmatrix}$ is singular, then $a^3 + b^3 + c^3$ is equal to 1

(a) abc (b) a+ b+ c (c) 2abc (d) 3abc

1

1

11 The general solution of the differential equation $\frac{dy}{dx} = e^{x+y}$ 1

(a) $e^x + e^{-y}$= C (b) $e^x + e^y$= C (c) $e^{-x} + e^y$= C (d) $e^{-x} + e^{-y}$= C

1

12 If $|\vec{a}| = 10$, $\left|\vec{b}\right| = 2$ and $\vec{a}\vec{b}$ = 12 , then the value of $\left|\vec{a} \times \vec{b}\right|$ is equal to 1

(a) 5 (b) 10 (c) 12 (d) 16

13 $\int \frac{sin^2x - cos^2x}{sin^2xcos^2x} dx$ is equal to 1

(a) $tanx + cotx + c$ (b)) $tanx + cosecx + c$

(c) $-tanx + cotx + c$ (d)) $tanx + secx + c$

14 Assertion (A): The differential equation of all circles in a plane is of order 2. 1

Reason (R): There is only one circle, which passes through three non-collinear points.

15 A function is defined as $f(x) = e^x$ 1

Assertion (A): $f(x)$ has no local maxima and no local minima

Reason(R): The value of e is 2 < e < 3

Section - B

16 Find the interval in which the function $f(x) = 10 - 6x - 2x^2$ is strictly increasing ?

17 Integrate : $sin^3x\, cos^2x$ 2

18 A stone is dropped into a quite lake and waves move in a circles at the speed of 5 cm/s. At the instant when the radius of the circular wave is 8 cm, how fast is the enclosed area increasing ? 2

19 Prove that $sin^{-1}\left(2x\sqrt{1-x^2}\right) = 2sin^{-1}x$ 2

Reduce $cot^{-1}\left\{\frac{\sqrt{1+sinx}+\sqrt{1-sinx}}{\sqrt{1+sinx}-\sqrt{1-sinx}}\right\}$, where $\frac{\pi}{2} < x < \pi$ into the simplest form

20 Find the local maxima or local minima if exist of the function $f(x) = sinx + cosx,\ 0 < x < \frac{\pi}{2}$ 2

Section - C

21 Differentiate x^{sinx} , $x > 0$ w.r.t. x. 3

22 Find the value of $\int_0^{\frac{\pi}{4}} \log\,(1 + tanx)\, dx$ 3

23 Solve the differential equation : $cos^2x\, \frac{dy}{dx} + y = tanx \quad \left(0 \le x \le \frac{\pi}{2}\right)$ 3

Or

$x^2 \frac{dy}{dx} = x^2 - 2y^2 + xy$

24 Two cards are drawn simultaneously (without replacement) from a well shuffled pack of 52 cards. Find the mean of the number of king. 3

25 Integrate : 3

$$\int \frac{x^2}{(x^2+1)(x^2+4)} dx$$

Or

$$\int \frac{(x-3)e^x}{(x-1)^3} dx$$

Section – D

26 If $A = \begin{bmatrix} 1 & 2 & -3 \\ 3 & 2 & -2 \\ 2 & -1 & 1 \end{bmatrix}$ find A^{-1}. Hence solve the system of equation 5

$x + 2y - 3z = 6$

$3x + 2y - 2z = 3$

$2x - y + z = 2$

27 Find the area of the region bounded by the curve $4y = x^2$ and $x = 4y - 2$ 5

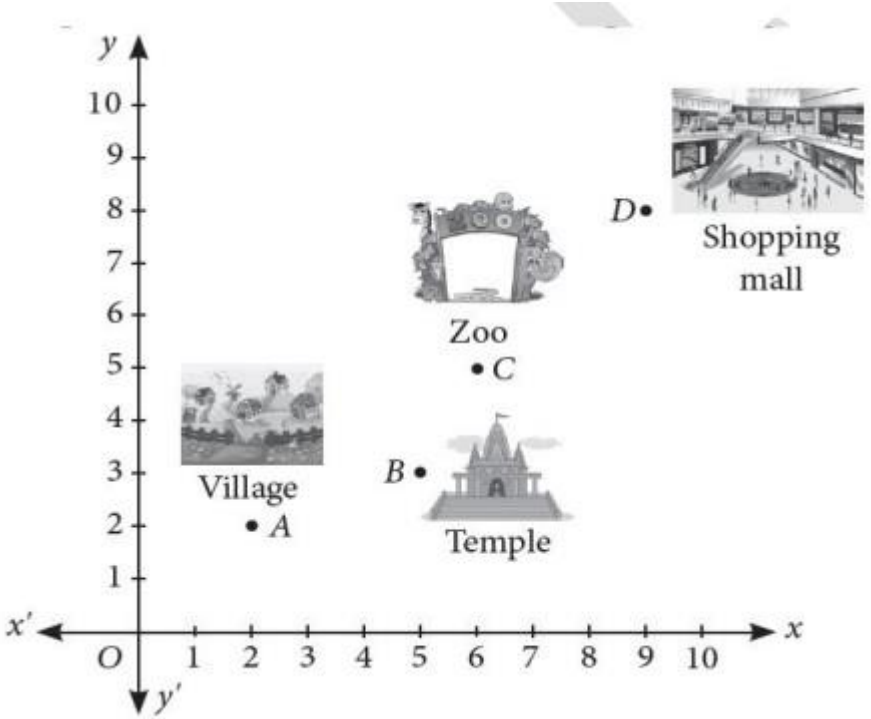
28 Let R be a relation on $N \times N$ defined by $(a,b)R\ (c,d) \Leftrightarrow ad = bc\ for\ all\ (a,b), (c,d) \in N \times N$. Show that R is an equivalence relation and hence find the equivalence class of [(2,6)] 5

Or

Show that the function $f: R_+ \to [-5, \infty)$ defined by $f(x) = 9x^2 + 6x - 5$ is one-one and onto.

Section E

29 Ishaan left from his village on weekend. First, he travelled up to temple. After this, he left for the zoo. After this he left for shopping in a mall. The positions of Ishaan at different places is given in the following graph.



Based on the above information. Answer the following

(I) Find the position vector of B.

(ii)Find the length of AD vector.

(iii) Find the unit vector of $\vec{M}$ If $\vec{M}$ = 4 j + 3k

38

Deepak wants to prepare a sweet box for Diwali at home. For making lower part of the box , He takes a square pieces of card board of side 18 cm. Based on the information answer the following :	

(i) Find the value of x for which $\frac{dy}{dx} = 0$ 1

(ii)Deepak is interested to the maximize the volume of the box. What should be the side of the square to be cut off so that the volume of the box is maximum ? 2

(iii))What will be the maximum valume of the box? 1

Home Work for Autumn Break (Holiday)

S.No	Class & Sec	Subject	Home Work
1	XII-B	Accountancy	Solve and Practice last 3(years) CBSE Sample Question papers. i.e 2024-25, 2023-24 & 2022-23
1	XII-B	Business Studies	Solve and learn last 3(years) CBSE Sample Question papers. i.e 2024-25, 2023-24 & 2022-23

Please submit the homework on 18th Oct 2024.

Hemant Kumar Lal
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