LITTLE FAIRY PUBLIC SCHOOL

HOLIDAYS HOMEWORK (2026-27)

CLASS – 10th

Summer Vacations will commence from 25th May, 2026 to 30th June, 2026.

The school will reopen from 1st July,2026 (Wednesday)

Holiday homework is an attempt to channelize the creative energy , it keeps you connected with the syllabus. Doing it in the right- spirit with enthusiasm will make it a great learning experience

General Instructions :

1. ***Revise all the work done in the class .***
2. ***Make sure that your work is neat, presentable, and original and conforms to the guidelines.***
3. ***Engage yourselves in morning walks, yoga, exercise, meditation with your parents or grandparents.***

Do the given homework as directed by the teachers

ENGLISH

Writing Skills: Goyal Assignment

- **Practice writing formal letters**
  #Assignment -1,2 (Complaint Letter) #Assignment - 5,6 (Inquiry Letter)
  # Assignment- 9,10,11,12(Placing Order)
- **Analytical paragraphs**
  #Assignment -1,2,3,4,5 (Based on Data) #Assignment -6,7, (Based on Cue/s)
  Assignment - 11,12,13 (Based on Outline)
- **Unseen Passage**
  #Assignment -1,2,3 (Discursive Passage) #Assignment -1,2,3 (Case-Based Factual Passages)

Literature

- Learn and write Central Idea and Poetic Devices of all poems (A4- Size sheets)
- Learn and Write the given mind- maps of all chapters and poems on A4 -size colour sheets
- Write Character Sketch of. - Lencho, Nelson Mandela, Mr Heriot, Hari Singh
- **PROJECT WORK (Literature)**
  GLIMPSES OF INDIA - project file with acknowledge card, Index Page, profile, colourful pictures , bibliography on A4 size pages, collection of information from various sources.

PROJECT WORK

- **Project: MANIPUR (EBSB)Pairing State to Madhya Pradesh**
  Draw/ Cut and paste pictures and write up for:
  1. Traditional Clothes
  2. Traditional Dance forms
  3. English Literary Personalities fro Assam
  B. Portfolio: Make a printout and complete the asked information.

- **NEWSPAPER** -You are extremely disturbed about the attacks on the old people living alone. Make suggestions to people living alone and the authorities through news paper to ensure that such attacks do not take place .
  EDITOR'S PEN, USE OF VOCABULARY (A-3 Size Sheet)

MATHEMATICS

1. Revise your complete syllabus
2. Make a collage on A3 sheet on any 2 mathematicians and their contribution in the field of mathematics.
3. Prepare working model according to Roll No.
i. Smart Traffic light using Algebra (Roll no 1to 10)
ii. Hydraulic lift with mathematics (Roll no 11 to 20)
iii. Rainwater Harvesting mathematical model (Roll no 21 to 30)
iv. Coordinate Geometry City map(Roll no 31 to 40)

SCIENCE:

Revise Syllabus done in the class.
Complete all the registers with intext and back exercise question.
Prepare the working model of the following:

1. Excretory System (Roll no 1 to 6)
2. Circulatory System(Roll no 7 to 12)
3. Respiratory System (Roll no 13 to 18)
4. Solar Power Irrigation Model (Roll no 19 to 24)
5. Haemodialysis Working Model (Roll no 25 to30)
6. Pollution Control (Roll no 31to 36)
7. Smart Farming (Roll no 37 onwards)

SOCIAL SCIENCE:

1. Make a project on consumer awareness on A3 size pages upto 8 pages.
2. Show all the types of soil in political map of India and paste them in your notebook.
3. Make a project on Sikkim on A4 sheets related with its Culture, Language, Food ,Craft, Festivals, Dance and Political system of the state

हिंदी

परियोजना कार्य हेतु मुख्य निर्देश-

क) परियोजना कार्य साफ सुथरी एवं सुंदर लिखावट में करें
ख) कार्य A4 शीट/ प्रोजेक्ट फाइल में तैयार करें।
ग परियोजना का प्रथम पृष्ठ आकर्षक कवर पेज के रूप में बनाएं।
घ) परियोजना में चित्र रंग एवं रचनात्मक सजावट का उचित प्रयोग करें।

परियोजना कार्य
आपके आवरण पृष्ठ की जानकारी:
- *विषय*: सिक्किम — प्राकृतिक सौंदर्य और संस्कृति
- *कक्षा*: 10वीं
- *विषय*: हिंदी
- *अनुक्रमणिका

1. प्रस्तावना
2. सिक्किम का परिचय
3. भौगोलिक स्थिति
4. प्राकृतिक सौंदर्य
5. संस्कृति एवं परंपराएँ
6. प्रमुख पर्यटन स्थल
7. खान-पान एवं वेशभूषा
8. वन्यजीव एवं पर्यावरण
9. निष्कर्ष
10. संदर्भ स्रोत

NOTE : कार्यभार एक और दो से संबंधित सभी प्रश्नों के उत्तर अपनी लेखन पुस्तिका में लिखें।

INFORMATION TECHNOLOGY

Practical Assignment

To be done on a computer, saved in a folder and get the printout of the same on A-4 size sheets and maintain a file.

1 . Style Implementation

- Create a document (A travel vlog/ IT and the modern World).
- Apply different styles for:
  - Headings
  - Subheadings
  - Body text
  - Quotes
- Create and apply at least one **custom style**.

2. Create a Document Template

- Design a template for an **Awareness Program: Road Sense** with:
  - Header with logo
  - Footer with page number and school name
  - Title and subheading placeholders
  - Use styles for headlines, subheadings, and body text

3. Perform the following tasks in your word processor:

i. Create a document with a title "My Environment Project" for a **Newsletter or Magazine Layout**: Design a 2-3 page school or community newsletter. Utilize text frames, multi-column layouts, and images with various text-wrapping settings to create a visually appealing publication.

ii. Apply a 'Heading 1 to Heading 10 ' style to the title.

iii. Add border to the pages.

4. Create Table of Contents

- Use the document created above as different Units with different levels of headings.
- Insert a Table of Contents using appropriate heading levels and sub headings.

Submission Guidelines

- Create a folder named: `yourname_Class10_DigitalDocs`
- Save all your documents inside.
- Submit via Pen Drive / Google Drive / Email (jyoti1975ons@gmail.com).
- Bring the printout of the same also.

ART

Prepare Warli art

Take a circle of 10 cm radius and decorate it with acrylic colour mirrors and jute rope (for hanging)

Material required

*Acrylic colour

*White fluid

*Correction pen

Class X

Subject: Mathematics **Assignment: 1**

1. 3 bells ring at an interval of 4, 7 and 14 minutes. All three bell rang at 6 am, when the three balls will the ring together next?
2. The HCF and LCM of two numbers are 9 and 360 respectively. If one number is 45, find the other number.
3. If two positive integers p and q are written as $p = a^2b^3$ and $q = a^3b$; a, b are prime numbers, then verify: $LCM(p, q) \times HCF(p, q) = pq$.
4. A forester wants to plant 66 apple trees, 88 banana trees and 110 mango trees in equal rows (in terms of number of trees). Also, he wants to make distinct roots of the trees (only one type of tree in one row). Find the minimum number of rows required.
5. Find the smallest pair of 4 digit numbers such that the difference between them is 303 and there HCF is 101.
6. Is $3 \times 3 \times 4 \times 28 + 1$ is a composite number? Justify your answer.
7. Two tankers contain 850 litres and 680 litres of petrol respectively. Find the maximum capacity of a container which can measure the petrol of either tanker in exact number of times.
8. The LCM of 6^4, 8^2 and k is 12^4 where k is a positive integer, Find the smallest value of k.
9. Three bulbs red, green and yellow flash at intervals of 80 seconds, 90 seconds and 110 seconds. All three flash together at 8:00 am. At what time will the three bulbs altogether again?
10. If $7560 = 2^3 \times 3\#p \times q \times 7$, then find p and q.
11. Three bells ring at intervals of 9, 12, 15 minutes respectively. If they start ringing together at a time, after how much time will they next ring together?
12. Find the HCF and LCM of 29029 and 1740.
13. If m is a positive integer and HCF of m, 490 and 450 .
14. The LCM of two numbers is 9 times their HCF. The sum of LCM and HCF is 500.Find the HCF of two numbers.
15. Find the smallest number which when divided by 25, 40 and 60 leaves remainder 7 in each case.
16. What is the greatest number that will divide 63, 138 and 228 so as to leave the same remainder in each case?
17. Prove that $\sqrt{5}$ is an irrational number.
18. Prove that $2+3\sqrt{3}$ is an irrational number when it is given that $\sqrt{3}$ is an irrational number
19. Prove that $(5-3\sqrt{2})$is an irrational number, given that $\sqrt{2}$ is irrational number .
20.. Prove that $(2 +\sqrt{3})/5$ is an irrational number, given that $\sqrt{3}$ is an irrational number.
21. Prove that $7-6\sqrt{5}$ is an irrational number.
22. Given that $\sqrt{3}$ is irrational, prove that $5+ 2\sqrt{3}$is irrational.
23. Given that $\sqrt{5}$ is irrational, prove that $2\sqrt{5} -3$ is irrational.

24. Draw the graph of the equations x - y + 1 = 0 and 3x + 2y-12 = 0. Using the graph find the values of x and y which satisfy both the equations.

25. Solve graphically the following system of linear equations. Also, find the coordinates of the points where the graph lines meet the y-axis. 3x+2y+4=0; 3x-2y+8=0
26. Solve graphically the following system of linear equations. Also, find the coordinates of the points where the graph lines meet the y-axis. x+3y=6; 2x-3y = 12
27. Draw the graph of the pair of equations 2x + y = 4 and 2x - y = 4. Write the vertices of the triangle formed by these lines and the y-axis. Also find the area of the triangle.
28.. Draw the graphs of the equations: 6y = 5x + 10 and y = 5x-15. From the graph, find:
    (i) the coordinates of the point, where the two lines intersect.
    (ii) the area of the triangle between the lines and the x-axis.
29. Determine graphically the vertices of the triangle, the equations of whose sides are
    (i) 2y + x = 0; 3y = x and x = 6 (ii) y = x; 3y = x and x + y = 8
30. A railway half ticket costs half the full fare, but the reservation charges are the same on a halt ticket as on a full ticket. One reserved first class ticket from the station A to B costs Rs.2530.. Also, one reserved first class ticket and one reserved first class half ticket from A to costs Rs.3,810. Find the full first class fare from station A to B, and also the reservation charges for a ticket.
31. Two years ago. Salim was thrice as old as his daughter and six years later, he will be four years older than twice her age. How old are they now?
32. The age of the father is twice the sum of the ages of his two children. After 20 years, his age will he equal to the sum of the ages of his children. Find the age of the father.
33. Two numbers are in the ratio 5:6. 1f 8 is subtracted from each of the numbers, the ratio becomes 4: 5. Find the numbers.
34. Jamula sold a table and a chair for 1,050, thereby making a profit of 10% on the table and 25% on the chair. If she had taken a profit of 25% on the table and 10% on the chair she would have got 1,065. Find the cost price of each.
35. Points A and B are 70 km apart on a highway. A car starts from A and another car starts from B- simultaneously. If they travel in the same direction, they meet in 7 hours. But, if they travel towards each other, they meet in 1 hour. Find the speed of each car.

Subject: Mathematics **Assignment: 2**

1 The product of Ramu's age (in years) five years ago with his age (in years) 9 years is 15. Find Ramu's present age.

2. One year ago, a man was 8 times as old as his son. Now his age is equal to the square of son's age. Find their present ages.

3.. The difference of two natural numbers is 5 and the difference of their reciprocals is 5/14 find the numbers.

4.The sum of the squares of two consecutive multiples of 7 is 637. Find the multiples.

5. A two digit number is 5 times the sum of its digits and is also equal to 5 more than twice the product of its digit. Find the numbers.

6. Three-consecutive natural numbers are such that the square of the middle number exceeds the difference of the squares of the other two by 60. Find the numbers.

7.Three consecutive positive integers are such that the sum of the square of the first and the product of the other two is 46. Find the integers.

8. The numerator of the fraction is one more than its denominator. If its reciprocal is subtracted from it, the difference is 11/30 find the fraction.

9. The numerator of a fraction is 3 less than the denominator. If 2 is added to both the numerator and the denominator, then sum of the new fraction and original fraction is 29/20. Find the original fraction.

10. The sum of the numerator and denominator of a fraction is 8. If 1 is added to both the 1 numerator and denominator, the fraction is increased by 1/15 Find the fraction.

11. The numerator of a fraction is one less than its denominator. If 3 is added to each of the numerator and denominator, the fraction is increased by 3/28. Find the fraction.

12. A 2-digit number is such that the product of the digits is 14. When 45 is added to the number, the digits are reversed. Find the number.

13. The sum of two numbers is 34.If 3 is subtracted from one number and 2 is added to another, the product of these two numbers becomes 260. Find the numbers

14. The sum of the areas of two squares is 640 m². If the difference of their perimeter is 64m find the sides of the square.

15. A train travelling at a uniform speed for 360 km would have taken 48 minutes less to travel the same distance if its speed were 5 km/hour more. Find the original speed of the train.

16. The sum of the ages of a father and his son is 50 years. Five years ago the product of their ages was 175. Find their present ages.

17. Find the coordinates of a point A. where AB is a diameter of the circle with centre (-2.2) and B is the point with coordinates (3,4)

18. Find the value of 'k' if (3,3/4) is the midpoint of line segment joining the points (k, 0) and (7, 3/2)

19. Find the ratio in which A(2,-5) divides the line segment joining and P(- 3,5) and Q(4, - 9).

20. Find the ratio in which A(4, 3) and B(2, - 6)is divided by x-axis,

21. Find a and b if the centroid of AABC formed by A(9, a) B(b, - 4) and C(7,8)is at (6,8).

22. Find the ratio in which the line segment joining the points (5, 3) and (-1, 6) is divided by Y axis.

23. P(- 2,5) and Q(3, 2)are two points. Find the coordinates of the point R on line segment PQ such that PR = 2QR

24. Point P(x,y) is equidistant from points A(5, 1) and B(1, 5) Prove that x = y

25. If the point C(- 1,2) divides internally the line segment joining A(2, 5) and B(x,y) in the ratio 3:4 find the coordinates B.

26. If the mid-point of the line segment joining the points A(3, 4) and B(k, 6) is P(x,y) and x + y - 10 = 0 find the value of k

27. Find the coordinates of the points of trisection of the line segment joining the points (3, - 1) and (6, 8).

28. Find the coordinates of a pointA, where AB is a diameter of the circle with centre (3,-1)and the point B is(2,6)

29. The line segment joining the points A(2, 1) and B(5, - 8) trisected at the points P and Q such that P is nearer to A. If P also lies on the line given by 2x - y+ k = 0 find the value of k.

30. In what ratio does the point (24/11, y) divide the line segment joining the points P(2,- 2) and Q(3, 7) Also find the value of y.

कक्षा दसवीं:

कार्यभार-1

NOTE : कार्यभार एक और दो से संबंधित सभी प्रश्नों के उत्तर अपनी लेखन पुस्तिका में लिखें।

प्रश्न 1. पदबंध की परिभाषा लिखिए साथ ही उसके प्रकारों के नाम लिखिए।

प्रश्न 2. निम्नलिखित वाक्यों में रेखांकित पदबंध का भेद लिखिए –

1. **नीले आसमान में उड़ते पक्षी** बहुत सुंदर लग रहे थे।
2. राम **बहुत तेज दौड़ता है**।
3. सीता **विद्यालय के पास** रहती है।
4. मोहन **धीरे-धीरे बोल रहा था**।

प्रश्न 3. निम्नलिखित पदबंधों का प्रयोग करके सार्थक वाक्य बनाइए –

1. सुंदर बगीचा 2. अत्यंत बुद्धिमान 3. घर के सामने 4. तेजी से

प्रश्न 4. नीचे दिए गए वाक्यों में पदबंध पहचानकर उनका प्रकार लिखिए –

1. पेड़ के नीचे बैठा बच्चा रो रहा था।
2. वह बहुत मीठा गाता है।
3. मेरे गाँव का मंदिर प्रसिद्ध है।
4. सैनिक साहस के साथ लड़ रहे थे।

प्रश्न 5. रिक्त स्थानों में उचित पदबंध भरिए –

1. _____ विद्यार्थी पुरस्कार प्राप्त करेंगे।
2. मोहन _____ जा रहा है।
3. बच्चे _____ खेल रहे हैं।

प्रश्न 6. स्वयं तीन-तीन उदाहरण लिखिए –

1. संज्ञा पदबंध 2. विशेषण पदबंध 3. क्रिया पदबंध

रचनात्मक कार्य

निम्नलिखित में से कोई एक कार्य कीजिए –

विकल्प – 1 **"मेरा विद्यालय" विषय पर 80–100 शब्दों का अनुच्छेद लिखिए तथा उसमें प्रयुक्त पाँच पदबंधों को रेखांकित कीजिए।**

विकल्प – 2 **चार्ट पेपर पर पदबंध के प्रकारों का सुंदर चित्र सहित प्रदर्शन कीजिए।**

कक्षा दसवीं:

कार्यभार-2

- भाग – A : पाठ बोध

1. निम्न प्रश्नों के उत्तर लिखिए –

i. हरिहर काका गाँव में किस रूप में प्रसिद्ध थे?
ii. हरिहर काका के परिवार का व्यवहार उनके प्रति कैसा था?
iii. महंत और साधु हरिहर काका से क्या चाहते थे?
iv. लेखक ने इस कहानी के माध्यम से कौन-सी सामाजिक समस्या दिखाई है?
v. आपको हरिहर काका का कौन-सा गुण सबसे अच्छा लगा और क्यों?

- भाग – B : रचनात्मक कार्य

2. चित्र निर्माण

'हरिहर काका' पाठ का कोई एक दृश्य बनाइए और उसके नीचे 5 पंक्तियों में वर्णन लिखिए।

3. संवाद लेखन

हरिहर काका और महंत के बीच होने वाली बातचीत को संवाद के रूप में लिखिए।

4. अनुच्छेद लेखन

"बुजुर्गों के प्रति हमारा कर्तव्य" विषय पर 100–120 शब्दों का अनुच्छेद लिखिए।

5. पोस्टर निर्माण

"लालच बुरी बला है" विषय पर एक आकर्षक पोस्टर बनाइए।

- भाग – C : व्याकरण कार्य

6. पाठ से पाँच संज्ञा, पाँच विशेषण और पाँच क्रियाएँ चुनकर लिखिए।

(i)संज्ञा (ii) विशेषण (iii) क्रिया

7. निम्न मुहावरों का अर्थ लिखकर वाक्य बनाइए -

(i) आँखों का तारा (ii) मुँह मोड़ लेना (iii) हाथ जोड़ना

(iv)दिल टूटना (v) लालच में पड़ना

- भाग – D : मूल्य आधारित प्रश्न

8. विचारात्मक प्रश्न

यदि आप हरिहर काका की जगह होते, तो क्या निर्णय लेते? कारण सहित लिखिए।

9. सामाजिक संदेश

इस कहानी से हमें कौन-कौन सी सीख मिलती है? 5 बिंदुओं में लिखिए।

Class 10 : Social Science

Note- Do following questions in your school notebook.

Q1: Define Nationalism.
Q2: How did the First World War create a sense of nationalism among the Indian people?
OR
How did first world war create a new political and economic situation?
Q3: What was the idea of Satyagraha?
Q4: Explain any three Satyagraha movements
Q5: What was the Rowlatt Act, and why were Indians against of it?
OR
Why were Indian people outraged by Rowlatt Act?
Q6: What were the impacts of the Rowlatt Act?
Q7: What was the Jallianwala Bagh incident?
Q.8What were the effects of Jallianwala Bagh on India?
Q9 Write a short note on the book Hind Swaraj.
Q10: What were the main features of the Non-Cooperation Movement?
Q11What was the Khilafat movement?
Q12 What were the economic effects of the Non-Cooperation Movement?
Q13 Why did the Non-Cooperation Movement gradually slow down in cities?
Q14 Why did Mahatma Gandhi support the Khilafat movement?
Q15 Write a short note on the Awadh Peasants Movement.
Q16 Why did the guerrilla movement Spread in the Gudem hills of Andhra Pradesh?
Q.17 What were the meanings of Swaraj for the plantation workers?
Q18 Write a short note on the Swaraj Party.
Q.19 Write a short note on Justice party.
Q20 Why was the Simon Commission boycotted by Indian people?
Q21 What was the importance of the Lahore session of 1929 in India?
Q.22 Write a short note on the Civil Disobedience Movement or what was the Salt March.
Q23. Why was the Civil Disobedience Movement called off?
Q24 What was the Poona Pact?
Q25 : Why did different social groups join the Civil Disobedience Movement?
Q.26 Describe the limits of the civil disobedience movement.
OR
Which Sections of Indian society did not participate in the Civil disobedience movement?
Q.27 Write a short note on quit India movement.
Q.28 Write a short note on HSRA.
Q.29 Why is the growth of nationalism in the colonies linked to an anti colonial movement?
OR
'The sense of collective belongingness develops in Indian people during the freedom struggle of India.'
Evaluate the statement

SCIENCE

PHYSICS

ASSIGNMENT (1)

Multiple Choice Questions

Q.1 What would be angle of incidence for a light ray having zero reflecting angle?

A 180° B 90°
C 0° D 45°

Q.2 If a man's face is 25 cm in front of concave shaving mirror producing erect image 1.5 times the size of face. Focal length of the mirror would be

A −75 cm B 25 cm
C 15 cm D −60 cm

Q.3 An object is placed at a distance of 20 cm in front of concave mirror of focal length 10 cm. The image produced is

A real, inverted and diminished
B real, inverted and enlarged
C real, inverted and same size
D virtual, erect and enlarged

Q.4 In order to determine focal length of a concave mirror by obtaining the image of distant object on screen, you need to measure the distance between

Competency Based Que.

A mirror and the screen
B object and screen
C mirror and object
D mirror and screen also between object and screen

Assertion-Reason Questions

Directions (Q.Nos. 5-6) *In each of the following questions, a statement of Assertion is given by the corresponding statement of Reason. Of the statements, mark the correct answer as*

A If both Assertion and Reason are true and Reason is the correct explanation of Assertion.

B If both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.

C If Assertion is true, but Reason is false.

D If Assertion is false, but Reason is true.

Q.5 **Assertion** (A) ENT specialist use a concave mirror as a head mirror to concentrate light on the body parts like eye, ear, nose etc.

Reason (R) A concave mirror is more effective and easily available.

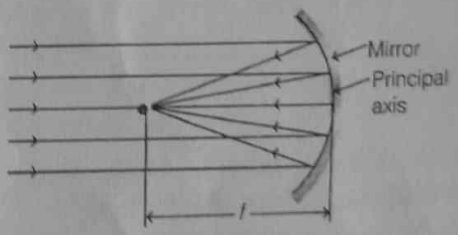
Q.6 **Assertion** (A) Keeping a point object fixed, if a plane mirror is moved, the image will also move.

Reason (R) In case of a plane mirror, distance of object and its image is equal from any point on the mirror.

Case Based/Source Based Questions

Directions (Q.No. 7) *Read the given case carefully and answer the questions that follow, using your knowledge of the scientific concepts involved.*

Q.7 Rohit hold a concave mirror in his hand and direct it's reflecting surface towards the sun. He directed the light relfected by the mirror on to a white cardboard held to the mirror. He moved the cardboard back and forth gradually until he found a bright, sharp spot of light on the board which is also termed as "Principal focus" of the concave mirror.



i. If he used convex mirror in place of concave mirror, then what he would have observed?

ii. If the distance between the mirror and the principal focus is 12 cm, find the radius of curvature of the mirror.

iii. Draw a ray diagram to show the type of image formed when an object is placed between pole and focus of a concave mirror.

Or

An object 10 cm in size is placed at 100 cm in front of a concave mirror. If it's image is formed at the same point where the object is located, find

i. focal length of the mirror, and

ii. magnification of the image formed with sign as per New Cartesian sign convention.

Very Short Answer Type Questions

Q.8 How does the nature and size of the image formed by a concave mirror change as the object moves from infinity towards the pole?

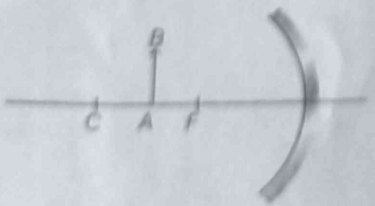
Q.9 A convex mirror used in a bus has radius of curvature 3.5 m. If the driver of the bus locates a car at 10.0 m behind the bus, find the position, nature and size of the image of the car.

Q.10 For a mirror, if the magnification $m = +2$, what type of mirror is it and what can you say about the position of object and nature of the image?

Q.11 An object 2 cm high is placed at a distance of 10 cm from a convex mirror of focal length 15 cm. Find the magnification produced.

Short Answer Type Questions

Q.12 Draw the ray diagram in your answer book and show the formation of image of object AB with suitable rays. Mention the position and nature of image. Competency Based Que.



Q.13 An object of size 7.0 cm is placed at a distance of 27cm in front of concave mirror of focal length 18 cm. At what distance from the mirror should a screen be placed, so that a sharp focussed image can be obtained? Find the size and the nature of the image.

Q.14 A concave mirror produces a real image twice the size of the object. If the distance between the object and image is 60 cm, calculate the focal length of the mirror.

Long Answer Type Questions

Q.15 (i) Explain with the help of diagram what are the characteristics of the image formed by a concave mirror when the object is placed at the centre of curvature? How will the image change, if the object is moved slightly towards the mirror?

(ii) A concave mirror produces an image of an object placed 40 cm in front of it at a distance of 60 cm in front of the mirror. Calculate its focal length.

(a) image distance and

(b) magnification in each of two cases.

Q.16 (i) What is meant by the principal focus of a spherical mirror? Distinguish between the focal length and radius of curvature. Draw suitable diagrams to illustrate your answer.

(ii) A 4 cm high object is placed at a distance of 8 cm from a concave mirror of focal length 10 cm. Find the position and height of the image formed.

SCIENCE
BIOLOGY

ASSIGNMENT (2)

Multiple Choice Questions

Q.1 Select the group in which all organisms remove nitrogenous waste mainly through kidneys.

A Frog, Human, Lion, Cow
B Earthworm, *Amoeba*, *Hydra*, *Paramecium*
C Insect, Spider, Earthworm, Snail
D Fish, Frog, Cockroach, Bird

Q.2 Which of the following is a correct combination of function and part of the nephron?

A Filtration – Tubule
B Selective reabsorption – Bowman's capsule
C Filtration – Glomerulus
D Selective reabsorption – Ureter

Q.3 Which of the following statements about nephron and its parts are correct?

i. Bowman's capsule surrounds the glomerulus and filters blood.
ii. The renal tubule filters blood directly.
iii. The ureter carries urine from the kidney to the urinary bladder.
iv. The collecting duct collects urine from the renal tubule.
v. Nephrons are found in the urinary bladder.

A i, ii, iii
B ii, iii, iv
C i, iii, iv
D i, iv, v

Q.4 Choose the substances from the following which are reabsorbed when the glomerular filtrate passes through the tubular part of a nephron.

A Glucose
B Amino acids, salts
C Major amount of water
D All of these

Q.5 The liquid products formed in plants due to the oxidation of various essential oils are

Competency Based Que.

A gums B latex C resins D tennin

Assertion–Reason Questions

Direction (Q. Nos. 6-10) *In each of the following questions, a statement of Assertion (A) is given by the corresponding statement of Reason (R). Of the statements, mark the correct answer as*

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 is true, but R is false
D A is false, but R is true

Q.6 **Assertion** (A) Urine formed in the kidney enters the urinary bladder through the ureter.

Reason (R) It is temporarily stored in the urinary bladder.

Q.7 **Assertion** (A) Ultrafiltration involves the filtration of blood under high pressure.

Reason (R) Reabsorption of major amount of water occurs in the tubular part of the nephron.

Q.8 **Assertion** (A) Human kidneys are asymmetrical in position.

Reason (R) The right kidney is slightly lower than the left kidney.

Q.9 **Assertion** (A) Tubular secretion is an important step in the urine formation which occurs in nephron.

Reason (R) It helps in the maintenance of ionic balance in the body.

Q.10 **Assertion** (A) Useful plant wastes are essential oils, tannin, gums, resins, natural rubber, etc.

Reason (R) Rubber plant is the common example of a plant which exudes latex (used in tyre industry) as an excretory product.

Case Based/Source Based Questions

Q.11 *Answer the questions on the basis of your understanding of the following passage and related studied concepts.*

Neha is studying how living organisms remove waste products from their bodies to maintain health and balance. She wants to learn about different excretory organs, how they function, and the reasons behind certain natural phenomena related to excretion. Help her by answering the questions given below.

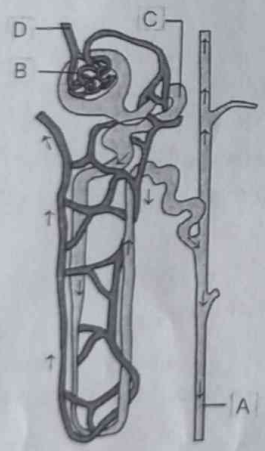
i. Explain why a person might have high levels of urea in their blood.

ii. Differentiate between the kidneys and lungs as excretory organs in humans.

iii. Describe the path of urine formation through the nephron.

iv. The figure given below shows the structure of a nephron with parts labelled as A,B and C

v. Identify the part where filtration of wastes takes place



Very Short Answer Type Questions

Q.12 How does excretion take place in unicellular organisms?

Q.13 State major constituents of urine.

Short Answer Type Questions

Q.14 Explain the principle of haemodialysis.

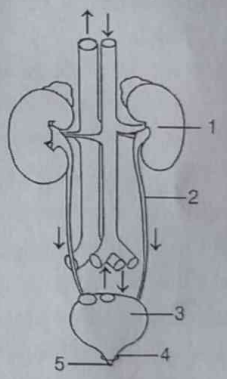
Q.15 While going through his biology textbook, Aman noticed an illustration of two bean-shaped organs connected to a urinary bladder by narrow tubes. The description explained that these organs help purify the blood by removing harmful substances like urea and extra salts.

i. Identify these organs and describe their primary function in the human body.

ii. Mention any two waste materials eliminated by these organs and explain why it is important for the body to excrete them.

Long Answer Type Questions

Q.16 The diagram given below represents an organ system in the human body.



Answer the following questions based on the diagram given above

i. Identify the system.

ii. Label the parts marked as 2 and 4. Mention the function of part 3.

iii. Name the structural and functional unit of the part marked as 1. Competency Based Que.

iv. What does the fluid accumulated in part 3 called ?

Q.17 Outline the functioning of kidney dialysis machine.

SCIENCE

CHEMISTRY

ASSIGNMENT (3)

Multiple Choice Questions

Q.1 In which of the following chemical equations, the abbreviations represent the correct states of the reactants and products involved at reaction temperature?

A $2H_2(l)+O_2(l) \longrightarrow 2H_2O(g)$

B $2H_2(g)+O_2(l) \longrightarrow 2H_2O(l)$

C $2H_2(g)+O_2(g) \longrightarrow 2H_2O(l)$

D $2H_2(g)+O_2(g) \longrightarrow 2H_2O(g)$

Q.2 Which of the following are combination reactions?

i. $2KClO_3 \xrightarrow{\text{Heat}} 2KCl+3O_2$

ii. $MgO+H_2O \longrightarrow Mg(OH)_2$

iii. $4Al+3O_2 \longrightarrow 2Al_2O_3$

iv. $Zn+FeSO_4 \longrightarrow ZnSO_4+Fe$

A i and iii B iii and iv

C ii and iv D ii and iii

Q.3 The chemical reaction between quicklime and water is characterised by

A evolution of hydrogen gas

B formation of slaked lime precipitate

C change in temperature of mixture

D change in colour of the product.

Q.4 Which of the following is an example of simple displacement reaction?

A The electrolysis of water.

B The burning of methane.

C The reaction of a metal with an acid.

D The reaction of two salt solutions to form a precipitate.

Q.5 Which among the following is getting reduced in the following reaction?

$$Fe_2O_3+3CO \longrightarrow 2Fe+3CO_2$$

A CO B Fe

C CO_2 D Fe_2O_3

Assertion-Reason Questions

Direction *(Q. Nos. 6-8) In each of the following questions, a statement of* **Assertion** *is given by the corresponding statement of* **Reason**. *Of the statements, mark the correct answer as.*

A Both Assertion and Reason are true and Reason is the correct explanation of Assertion.

B Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

C Assertion is true but Reason is false.

D Assertion is false but Reason is true.

Q.6 **Assertion** (A) The following chemical equation is an example of thermal decomposition reaction.

$$2KClO_3(s) \xrightarrow[\text{Catalyst}]{\text{Heat}} 2KCl(s)+3O_2(g)$$

Reason (R) Heat gets released in the decomposition reactions.

Q.7 **Assertion** (A) $2Na+H_2 \longrightarrow 2NaH$

In the above chemical equation, sodium is getting oxidised and H_2 is getting reduced.

Reason (R) The chemical reaction in which oxidation and reduction take place simultaneously, is called redox reactions.

Q.8 **Assertion** (A) White silver chloride turns grey in sunlight.

Reason (R) Decomposition of silver chloride in presence of sunlight takes place to form silver metal and chlorine gas.

Case Based/Source Based Questions

Q.9 **Direction** *Answer the questions on the basis of your understanding of the following passage and related studied concepts:*

Rancidity is a common phenomenon affecting food items containing oils and fats. It occurs when these substances undergo certain chemical changes due to exposure to environmental factors, leading to undesirable changes in smell, taste and nutritional quality.

Various methods are employed in the food industry to delay this process and extend the shelf life of products. These include reducing contact with air, adding certain substances and controlling storage conditions.

A. What type of chemical reaction is involved in rancidity? Give one example of a food item that is prone to becoming rancid.

B. Why are potato chips often packed in airtight bags filled with a specific gas? Name the gas used.

C. How does adding antioxidants to foods like butter help in preventing rancidity?

Or

Explain why storing fried foods in refrigerators slows down rancidity.

Very Short Answer Type Questions

Q.10 Write the balanced chemical equations for the following reactions.

i. Sodium carbonate on reaction with hydrochloric acid in equal molar concentrations gives sodium chloride and sodium hydrogen carbonate.

ii. Sodium hydrogen carbonate on reaction with hydrochloric acid gives sodium chloride, water and liberates carbon dioxide.

Q.11 Nickel (II) nitrate is prepared by heating nickel metal with liquid dinitrogen tetraoxide. In addition to the nitrate, gaseous nitrogen monoxide is formed. Write the balanced equation for it. **Competency Based Que.**

Q.12 i. Which kind of chemical reaction takes place when electric current is passed through fused lead bromide?

ii. Silver articles get black coating. Name the phenomenon.

Q.13 Ferrous sulphate crystals are heated in a dry boiling tube. Why there is a colour change from green to white. Give appropriate chemical equation.

Short Answer Type Questions

Q.14 Complete the missing components/variables given as reactant and product in the following reactions.

i. $BaCl_2 + \text{'X'} \longrightarrow 2HCl + BaSO_4\downarrow$

ii. $Cu + AgNO_3 \longrightarrow Cu(NO_3)_2 + \text{'Y'}$

iii. $CaCO_3 \xrightarrow{\text{'Z'}} CaO + CO_2$ **Competency Based Que.**

Q.15 Zinc oxide reacts with carbon, on heating form zinc metal and carbon monoxide. Write a balanced chemical equation for this reaction. Name (i) oxidising agent (ii) reducing agent in this reaction.

Q.16 i. Suggest two methods to slow down rancidity of food items.

ii. Why do chips manufacturers flush bags of chips with gas such as nitrogen?

Long Answer Type Question

Q.17 i. Can a displacement reaction be a redox reaction? Explain with an example.

ii. Identify the reducing and oxidising agent in the following

(a) $H_2O + F_2 \longrightarrow HF + HOF$

(b) $Pb_3O_4 + 8HCl \longrightarrow 3PbCl_2 + Cl_2 + 4H_2O$

iii. By using equation of electrolytic decomposition of water, differentiate between skeletal chemical equation and a balanced chemical equation.