EAST POINT SCHOOL
CLASS X
ONLINE ASSIGNMENT 26

ENGLISH

HIS FIRST FLIGHT
BY LIAM O' FLAHERTY

Extract Based Questions **(1x6=6 marks)**

1.**"He screamed with fright and attempted to rise again flapping his wings. But he was tired and weak with hunger and he could not rise exhausted by the strange exercise."**
(a) Why did he scream with fright?
(b) When did he get over his fear of water?
(c) Give the meaning of 'fright'.
2. "And all the morning the whole family had walked about on the big plateau midway down the opposite cliff taunting him with his cowerdice."
(a) What had the whole family done all the morning?
(b) Why were the family members taunting the seagull?
(c) Find out a word similar in the meaning to 'a steep rock face'.

Short Answer Type Questions
(2x5=10)

1. Describe the young seagull's expression when he saw his mother with food.
2. What was the young seagull's mother doing before him?
3. How did seagull's parents try to make him fly?
4. Why did the young seagull not go with the rest of his family?
5. When did the seagull get over his fear of flying over the sea?

Long Answer Type Question
(5x3=15)

1. Do you think that the seagull's family loved him? Justify their attitude towards him?
2 Why was the young seagull pretending to be asleep? What did he actually observe while doing so?
3. How did the young seagull get over his fear of sea water and what was his family's reaction on it?

GEOGRAPHY

Assignment (revision)

Topic : lifelines of National economy

Group 1

1.The government has launched a major road development project linking DelhiKolkata-Chennai-Mumbai and Delhi by …….lane Super Highways?

A. 4
B. 6
C. 2
D. 8

2.National Highway No.1 runs between which two cities?

A. Delhi- Nagpur
B. Delhi- Kanpur
C. Delhi - Amritsar
D. Delhi- Jaipur

3. What are border roads ? Mention two reasons why they are important .(3)

4. Road and rail transport in India are not competitive to each other but complimentary to each other .justify the statement .(3)

5. Roadways still have an edge over railways in India.support the statement with arguments .(5)

Group 2

1. Railways are the principal mode of transportation for ……. and passengers in India?

A. Traveling
B. Freight
C. Time saving
D. Comfort levels

2. The Indian Railway is now reorganised into …...zones?

A. 14
B. 12
C. 10
D. 16

3. Explain any three reasons for dense eailway network in the northern plains .(3)

4. What are super highways ? Name three major super highway projects .(3)

5.Describe any five major problems faced by road transport in India .(5)

Group 3.

1. What is the most important factor that influences the distribution pattern of the Railway network in the country?

A. Physiographic factor
B. popularity
C. Administrative factor
D. Freight charges

2. What are the favourable conditions for the growth of railways in the Northern plains?

A. vast level land
B. Freight charges
C. Administrative reasons
D. Good economy

3. What are rural roads? What special provisions have been made recently for this categories of roads .(3)

4. Highlight the issues suffered by rail transport in India.(3)

5. Discuss the significance of National highways and border roads .(5)

Activity: locate and label the following on the political map of India.

The sea port of marmagao

The airport at Chennai

The airport at Amritsar

Video link :

https://youtu.be/4kmh80rWYII

POLITICAL SCIENCE

POL SC assignment

Revision questions

1 mark

Define the following

Q1 Defection

Q2 Partisanship

Q3 Transparency

3 marks

Q1 Discuss the different types of political party system in the world.

Q2 Describe the forms of power sharing .

Q3 Differentiate between different Types of lists with the help of flowchart.

5marks

Q4 How is democracy an accountable and legitimate government?

Q5 Explain the functions of political parties.

Q6 Discuss the challenges of political parties.

Q7 How can political parties be reformed.

https://youtu.be/LQN-fRc52lA

ECONOMICS

Class: Xth Subject: Social Science (Economics)

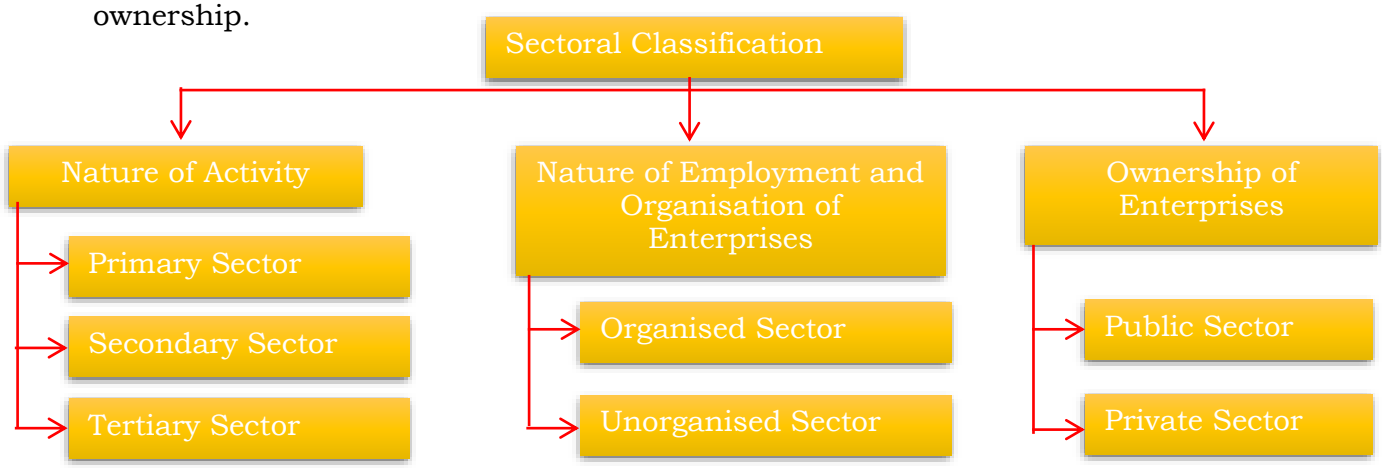
Chapter 2: Sectors of the Indian Economy

Revision Notes:

Economic Activities

- An Economic activity is basically an activity/action that results in the production of goods and services.

- It can be classified on the basis of the nature of work, way of employment and ownership.



There are three main sectors of economic activities on the basis of **Nature of Activity** in India: –

1) Primary Sector (Agricultural Sector)
2) Secondary Sector (Industrial Sector)
3) Tertiary Sector (Service Sector)

- Though these economic activities are grouped into three categories, the economic sectors are highly interdependent.
- A historical shift in economic sectors is visible in most countries.
- In the early stages of development, the primary sector dominates the economy.
- This, then shifts to the secondary sector during the developing stage and once the country is economically developed, the tertiary sector gains importance.
- This shift in the economic sector does not mean that the previous sector is eliminated, but rather means that its importance is lowered.

Primary Sector

- Primary sector include those economic activities which produce natural goods by using the raw materials/natural resources available in the nature.
- They produce natural goods (or materials/products) which forms the base for all other products made from it subsequently.
- Also known as Agriculture & Related Sector because most of the natural products obtained by this sector are from agriculture, dairy, fishing, forestry etc.
- Examples of Primary Activities – Agriculture, Mining, Animal Husbandry, Fishing, Forestry, Dairy etc.

Secondary Sector

- Secondary sector includes those economic activities which converts/processes natural goods/products into other forms through ways of manufacturing and processing.
- It enhances the value of the material, and produces final products intended for the final user.
- Also known as Industrial Sector as the various ways of manufacturing and processing involved in this sector are associated with industries.
- Examples of Secondary Activities – Food Processing *(producing chips from potato, snacks from flour, ghee from milk etc.)*, Oil Refining *(refining crude oil into*

petrol, diesel etc.), Manufacturing Units *(making cars, planes, computers etc. from raw materials like metals).*

Tertiary Sector

- Tertiary sector includes those economic activities which generates services for supporting the production sectors *(helps in the development of primary & secondary sectors)*.
- These do not produce any goods/products, but rather generate essential services for the production sector (which produces the goods).
- Also known as Service sector as these activities generate various essential services for supporting the production of goods/services.
- Examples of Tertiary Sector – Education *(Schools, Universities etc.)*, Healthcare *(Hospitals, Pharmacies etc.)*, IT (*Software Development, E-Commerce, Navigation etc.)*, Communication *(Call Centres, Post & Mail, Mobile Phone etc.)*. Services rendered by doctors, teachers, lawyers, engineers etc. all come under the service sector.

Comparing Economic Sectors

- The primary sector (especially agriculture) employs more than half of the country's workers, whereas it only generates about 1/4th of the country's GDP.
- Even though the job opportunities are limited, the secondary & tertiary sectors contribute 3/4th of the country's GDP.
- Large number of job opportunities can be created in various fields of the secondary and tertiary sector. The planning commission of India estimates that nearly 20 lakh jobs can be created in the education sector alone.

1) Explain the importance of primary sector in the Indian economy. (5)

2) Explain the primary, secondary and tertiary sectors by giving examples of each. [2016-17, 2015, 2014, 2011, 2010] (5)

OR

How are the economic activities classified into primary, secondary and tertiary sectors? (5)

3) How is tertiary sector different from the other two sectors of economic activities? Explain with few examples. [2016-17, 2011] (5)

4) Service sector in India employs two different kinds of people. Who are these? (3)

Video Links

https://www.youtube.com/watch?v=Qt-Bthp_Xoc&t=16s
https://www.youtube.com/watch?v=4DKaDv5SPp0
https://www.youtube.com/watch?v=eDPcTNVEd-U
https://www.youtube.com/watch?v=CFLx_Sl65qM
https://www.youtube.com/watch?v=4DKaDv5SPp0
https://www.youtube.com/watch?v=LpaMlD_hA5k&list=PLY7M8elJDmwYsdIKu89kJHJy963VePxgT&index=4

https://www.youtube.com/watch?v=x1jHFZUWbCY&list=PLY7M8elJDmwYsdIKu89kJHJy963VePxgT&index=5

https://www.youtube.com/watch?v=c2t4eCihfOM&list=PLY7M8elJDmwYsdIKu89kJHJy963VePxgT&index=6

PHYSICS

CHAPTER–12

Electricity

MULTIPLE CHOICE QUESTIONS

1.What is the rate of flow of electric charges called

(i)Electric potential (ii)Electric conductance (iii)Electric current (iv)None of these

2.Which of the following is the SI Unit of Electric Current?

(i)Ohm (ii)Ampere (iii)Volt

(iv)Faraday

3.Which instrument is used for measuring the electric potential difference between two points of the circuit?

(i)Ammeter (ii)Galvanometer (iii)Voltmeter (iv)All of these

FILL IN THE BLANKS

4.---- -and------ are the two types of electric charges.

5.Two resistances of 4 Ω and 8 Ω are connected in parallel --------- is the combined resistance of the system.

6.----------is an instrument that measures electric current in a circuit.

ONE MARK QUESTIONS

7.Keeping the potential difference constant, the resistance of a circuit is doubled. By what factor does the

current change in the circuit?

8.A charge of 2C moves between two plates maintained at a Potential difference of 1V. What is the energy acquired by the charge?

9.Consider the units volt, ohm, and ampere. One of them is the same as the product of the other two. Which

one is this?

ASSERTIONS AND REASONS

For the question numbers 10, 11 and 12, two statements are given- one labelled Assertion (A) and the

other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true but R is not the correct explanation of A.

(c) A is true but R is false.

(d) A is false but R is true.

10.Assertion: The resistivity of a semiconductor increases with temperature.

Reason: The atoms of a semiconductor vibrate with larger amplitude at higher temperatures thereby increasing its resistivity.

11.Assertion: In a simple battery circuit the point of lowest potential is the positive terminal of the battery.

Reason: The current flows towards the point of the higher potential as it flows in such a circuit from the

negative to the positive terminal.

12.Assertion: There is no current in the metals in the absence of an electric field.

Reason: The motion of the free electron is random.

THREE MARK QUESTIONS

13.Give reason-

(a) The resistance of a metallic conductor increases with an increase in temperature.

(b) Copper and aluminium are generally used for electricity transmission.

(c) Alloys are commonly used in electrical heating devices such as electric iron and toaster.

CHEMISTRY

NOMENCLATURE AND ISOMER WORKSHEET

I. FILL THE NAME OR FORMULA OF THE FOLLOWING HYDROCARBONS:

1. C_3H_6 _____
2. C_5H_8 _____
3. C_2H_4 _____
4. C_7H_{16} _____
5. C_4H_{10} _____
6. C_8H_{16} _____
7. C_9H_{16} _____
8. $C_{10}H_{22}$ _____
9. _____ BUTENE
10. _____ OCTYNE
11. _____ PROPENE

12. _____ NONENE
13. _____ PENTANE
14. _____ ETHYNE
15. _____ HEXYNE

II. DRAW THE ISOMERS OF
    1. PENTANE
    2. HEXANE

III. DRAW THE STRUCTURES OF CYCLOHEXANE AND BENZENE. ALSO WRITE THE CHEMICAL FORMULA.

IV. IDENTIFY THE FUNCTIONAL GROUP:
    i) CH_3CH_2OH
    ii) C_2H_5COOH
    iii) HCHO
    iv) CH_3COCH_3
    v) C_3H_7Cl

VIDEO LINK: https://www.youtube.com/watch?v=W__FONULylg&authuser=0

BIOLOGY

REVISION -ASIGNMENT

Q1. "_The sex of a newborn child is a matter of chance and none of the parents may be considered responsible for it". Justify this statement with the help of _ow chart showing determination of sex of a new born.

Q2. A blue colour _flower plant denoted by BB is cross-bred with that of white colour flower plant denoted by bb.
(a) State the color of _flower you would expect in their F_1 generation plants.
(b) What must be the percentage of white _flower plants in F_2 generation if _flowers of F_1 plants are self-pollinated?
(c) State the expected ratio of the genotypes BB and Bb in the F_2 progeny.

Q3. What is biological magnification ? and illustrate the phenomenon to understand the process. .

Q4. Name three glands associated with the digestion process in human system and also mention its secretion

Q5Give one reason why multicellular organisms require special organs for exchange of gases between their body and their environment. :

Q6- Name the site of exchange of material between the blood and surrounding cells.

Q7- Name the component of blood that helps in the formation of blood clot in the event of a cut.

Q8. A blue colour flower plant denoted by BB is crossbred with that of white

colour flower plant denoted by bb.
(a) State the colour of flowers you would expect in their F1 generation plants.
(b) What must be the percentage of white flower plants in F2 generation if flowers of F1 plants are self-pollinated?
(c) State the expected ratio of the genotypes BB and Bb in the F2 progeny.
Q9. State the meaning of inherited traits and acquired traits. Which of the two is not passed on to the next generation? Explain with the help of an example.
Q10. (a) Draw a diagram to show the nutrition in Amoeba and label the parts used for this purpose. Mention any other purpose served by this part other than nutrition.
(b) Name the glands associated with digestion of starch in the human digestive tract and mention their role.
(c) How is required pH maintained in the stomach and small intestine?

HINDI

हिंदी असाइनमेंट

1. छोटे भाई को बड़े भाई की किन बातों से लघुता का अनुभव हुआ और क्यों?

2. अरब में लश्कर को नुह के नाम से क्यों याद किया जाता है?

3. रूढ़ियां जब बंधन बनने लगे तब उनका टूट जाना ही अच्छा है। क्यों? लगभग 80 से 100 शब्दों में स्पष्ट कीजिए।

4. बांकपन से क्या अभिप्राय है? जान देने की रुत रोज आती नहीं के माध्यम से कवि क्या कहना चाहता है?

5. पत्र लेखन

कला छाया नाम की एक संस्था दूरदर्शन के लिए कार्यक्रम बनाती है। संस्था को कुछ ऐसे युवकों की आवश्यकता है, जो अभिनय जानते हो तथा कम से कम दसवीं पास हो, एवं हिंदी अंग्रेजी का ज्ञान रखते हैं अपनी योग्यताओं का विवरण देते हुए कला छाया को एक आवेदन पत्र 80 से 100 शब्दों में लिखिए।

VIDEO LINK: https://youtu.be/K4tF7La5S58

COMPUTER
ASSIGNMENT
DATABASE DEVELOPMENT

1.What does DBMS stands for?
2. What does RDBMS stands for?
3. How is data organized in a RDBMS?
4.List the data types used in a DBMS /RDBMS?
5. State the relationship and difference between a primary and foreign key?
6. List datatypes available in Numeric Datatype?
7. List datatypes available in Alphaumeric Datatype?
8. List datatypes available in Numeric Datatype?
9. List datatypes available in Data Datatype?

Fill in the blanks:

1. A _____ is an organized collection of data.
2. A _____ is a software package that can be used for creating and managing databases.
3. A _____ is a database management system that is based on the relational model.
4. Three popular DBMS software are _____, _____, & _____.
5. A _____ is a set of data elements that is organized using a model of vertical columns and horizontal rows.
6. A _____ is a set of data values of a particular simple type, one for each row of the table.
7. A _____ represents a single, data item in a table.
8. _____ are used to identify which type of data we are going to store in the database.
9. A _____ is a unique value that identifies a row in a table.

SUBJECT: MATHEMATICS

Time allowed:3 Hours **Maximum Marks: 80**

General Instructions:

1. **Write your Name, Class, Section and Subject Teacher on top of the Answer Sheet. Each student will scan all the pages of answer script in correct order and send the same by email to the concerned subject teacher within 30 minutes after the completion of the writing time.**
2. **Camera must remain on throughout the duration of the examination.**
3. **Please check that this question paper is meant for your class.**
4. **All questions are compulsory.**
    1. **This question paper contains two parts A and B.**
    2. **Both Part A and Part B have internal choices.**

Part – A:

1. It consists of two sections- I and II
2. Section I has 16 questions. Internal choice is provided in 5 questions.
3. Section II has four case study-based questions. Each case study has 5 case-based sub-parts. An examinee is to attempt any 4 out of 5 sub-parts.

Part – B:

1. Question No 21 to 26 are Very short answer Type questions of 2 mark each,
2. Question No 27 to 33 are Short Answer Type questions of 3 marks each
3. Question No 34 to 36 are Long Answer Type questions of 5 marks each.
4. Internal choice is provided in 2 questions of 2 marks, 2 questions of 3 marks and 1 question of 5 marks.

PART – A

Section – I (1 mark each)

1. **Given that HCF (306, 657) = 9, find LCM (306, 657).**

Or

A tangent PQ at a point P on a circle of radius 5 cm meets a line through the centre O at a point Q, so that OQ = 13cm, then find the length of PQ.

2 **For what least value of 'n' a natural number, 24^n is divisible by 8?**

Or

If a , (a – 2) and 3a are in AP, then find the value of a.

3 **If p (x) = $2x^2 - 3x + 5$, then find P(-1).**

Or

If α and β are zeros of $x^2 + 5x + 8$, then find the value of $(\alpha + \beta)$.

4 **Find the value of m for which the pair of linear equations**
$2x + 3y = 7$ and $(m - 1)x + (m + 1)y = (3m - 1)$ has infinitely many solutions.

5 **Find the Discriminant of :** $\left(-x^2 + \frac{1}{2}x + \frac{1}{2} = 0\right)$

Or

If α and β are roots of the equation $3x^2 + 5x - 7 = 0$ then find the value of $\alpha\beta$.

6 **If the perimeter of a circle is equal to that of a square, then the ratio of their area is----------**

OR

Find the 11^{th} term of the AP : $-3, \frac{-1}{2}, 2$**.....**

7 **Find the distance between two points of contact of two parallel tangents to a given circle of radius 9 cm.**

8 **If 17^{th} term of an AP exceeds its 10^{th} term by 7. Find the common difference of AP.**

9 **Find the coordinates of a point A, where AB is the diameters of a circle whose centre is (2, - 3) and B is (1, 4) .**

10 **The areas of two similar triangles are respectively 9 cm^2 and 16 cm^2. Find the ratio of the corresponding sides.**

11 **A chord of a circle of radius 10 cm subtends a right angle at its centre. Calculate the length of the chord.**

12 **Given that $\sin\alpha = \frac{1}{\sqrt{2}}$ and $\cos\beta = \frac{1}{\sqrt{2}}$, then the value of $(\alpha + \beta)$.**

13 **A cone of height 24 cm and radius of base 6 cm is made up of modeling clay. Farmaan reshapes it in the form of a sphere, what will be the radius of the sphere.**

14 **Cards each marked with one of the numbers 4, 5, 6.....20 are placed in a box and mixed thoroughly. One card is drawn at random from the box, what is the probability of getting an even prime number?**

15 **The king, queen and jack of clubs are removed from a deck of 52 playing cards and then well shuffled. One card is selected from the remaining cards, find the probability of getting a king.**

16 **An unbiased die is thrown. What is the probability of getting an even number or a multiple of 3?**

Section II

Case study-based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark.

17. **Ahana is having a garden near her house. In the garden, there are different types of trees and flower plants. One day due to heavy rain and storm one of the trees got broken as shown in the figure.**
The height of the unbroken part is 15 m and the broken part of the tree has fallen at 20 m away from the base of the tree.

Based upon the given information answer the following questions:
Attempt any 4 sub parts:-

Using the Pythagoras answer the following questions:

i. **What is the length of the broken part?**

a. **15 m** **B. 20 m** **C. 25 m** **D. 30 m**

ii. **What was the height of the full tree?**

A. 40 m **B. 50m** **C. 35 m** **D. 30 m**

iii. **In the formed right-angle triangle what is the length of the hypotenuse?**

A. 15 m **B. 25 m** **C. 20m** **D. 30 m**

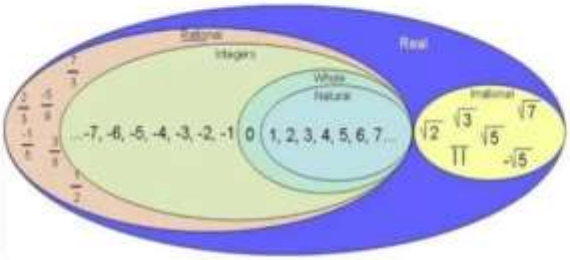
iv. **What is the area of the formed right angle triangle?**

A. 100 m^2 **B. 200 m^2** **C. 60 m^2** **D. 150 m^2**

v. **What is the perimeter of the formed triangle?**

A. 60 m **B. 50 m** **C. 45 m** **D. 100 m**

18. **Real numbers are simply the combination of rational and irrational numbers, in the number system. In general, all the arithmetic operations can be performed on these numbers and they can be represented in the number line.**



Based upon the given information answer the following questions:
Attempt any 4 sub parts:-

i. **An integer is always a:-**

A. Natural number **B. Irrational number** **C. Rational number** **D. Whole number**

ii. **Which of the following is an irrational number?**

A. $\frac{\sqrt{2}}{\sqrt{8}}$ **B.** $\frac{\sqrt{3}}{3\sqrt{5}}$ **C.** $\frac{\sqrt{5}}{\sqrt{20}}$ **D.** $\frac{\sqrt{63}}{\sqrt{7}}$

iii. **The decimal expansion of the rational number** $\frac{14587}{1250}$ **will terminate after:**

A. One decimal place B. two decimal places C. three decimal places D. four decimal places.

iv. **For some integer q, every odd integer is of the form:**

A. q **B. 2q + 1** **C. 2q** **D. q + 1**

v. **Three bulbs red, green and yellow flash at intervals of 80 seconds, 90 seconds and 110 seconds. All three flash together at 8 a.m. at what time will the three bulbs flash together again?**

A. 9.00 am **B. 9.12 am** **C. 10.00 am** **D. 10.12 am**

Q 19. A visit to a shopping Mall by a group of friends:

In a shopping mall there are three stores, each store having its own price lists:-

(i) Shoe store

(ii) Clothes store

(iii) Fruit store

In the shoe store the price list is as below:

Types of shoes	Price (Rs.)
Casual	500
Formal	350
Sports	750

In the clothes store the price list is as below:

Types of Clothes	Price (Rs.)
T-Shirt	300
Trouser	600
Blazer	2000

In the fruit store the price list is as below:

Fruits	Price (Rs.)
Apple	70
Orange	40
Guava	30

Based upon the given information answer the following questions:
Attempt any 4 sub parts:-

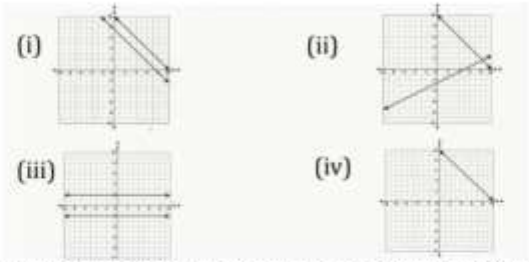
i. **Mokshi purchased x trousers and y kg oranges for Rs 1400. Kirti purchased x pair of sport shoes and y kg apple for Rs 1850. Which of these equations relates x and y?**

A. **$600x + 40y = 1850$ and $750x + 70y = 1400$** B. **$600x + 40y = 1400$ and $750x + 70y = 1850$**
C **$.750x + 40y = 1400$ and $600x + 70y = 1850$** D. **$600x + 70y = 1400$ and $750x + 40y = 1850$**

ii. **Gunjannat gave a note of Rs 2000 for a pair of casual shoes, she was returned eleven notes in denominations of Rs 200 and Rs 100. Which pair of equations can be used to find the number of Rs 200 notes are x and the number of Rs 100 notes are y?**
How many notes of Rs 100 did she get?

A. $x + y = 11$ **and** $200x + 100y = 1500$ **; 7** **B.** $x + y = 11$ **and** $200x + 100y = 2000$ **; 8**
C. $x = y + 11$ **and** $200x + 100y = 1500$ **; 6** **D.** $x + y = 11$ **and** $100x + 200y = 2000$ **; 9**

iii. Which of these linear equations have a unique solution:



iv. Ustat bought 5 kg fruit in which there are oranges and guavas, she paid Rs 160 then the weight of oranges and guavas are respectively:

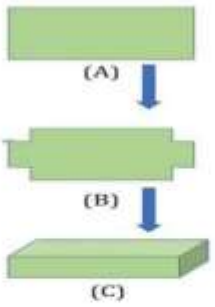
A. 2 kg and 3 kg **B. 4 kg and 1 kg** **C. 3kg and 2 kg** **D. 1 kg and 4 kg**

v. In Diwali sale there is discount of 25% in clothes store and 20% in shoe store. How much money Saanvi saved if she bought one blazer and 4 pair of formal shoes.

A. Rs 750 **B. Rs 840** **C. Rs 780** **D. Rs 800**

20 **Packaging Box**

A company manufactures boxes for gift packaging. A group of employees of this company prepares cuboidal shaped boxes. For this they follow the given process.
1.Take a rectangular cardboard.
2.Cut a square of same size at each corner.
3.Fold the remaining part and fix with the help of gum and paper.
4.The box is ready.



length and breadth of cardboard are 61 cm and 46 cm the squares are cut at the each corner of rectangle are of side 8 cm.

boxes are covered with rectangular cuboidal lid of same size.

Based upon the given information answer the following questions:
Attempt any 4 sub parts:-

i. **Shubhangi purchased 6 juice glasses of cylindrical shape to gift her friend Era. The height of the glass is 12 cm and diameter 7 cm. If these glasses are packed in the gift box then find the remaining volume in the box.**
A. 8224 cm^3 B. 6448 cm^3 C. 8028 cm^3 D. 6884 cm^3

ii. **Kritika wanted to gift wrap the box, find the area of gift wrapping paper to wrap the box.**
A. 3600 cm^2 B. 3900 cm^2 C. 2250 cm^2 D. 2500 cm^2

iii. **Find the perimeter of figure B calculated by Sugam.**
A. 225 cm B. 220 cm C. 214 cm D. 250 cm

iv. **Vanya packed some balls of radius 3.5 cm in the box. Find the maximum number of balls which can be packed in the box C.**
A. 18 B. 24 C. 28 D. 30

v. **If Vihaan puts 5 such boxes keping one above the other, find the total surface area of the shape so formed.**

A. 8700 cm^2 B. 8650 cm^2 C. 9000 cm^2 D. 9500 cm^2

Part –B

All questions are compulsory. In case of internal choices, attempt anyone.
(2 marks each)

21 **Find the value of p for which the equation: $px(x-2)+6=0$ has equal roots.**

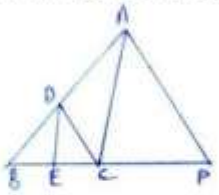
22 **Find the 20^{th} term from the end of the AP 3, 8, 13……..253.**

Or

How many multiples of 4 lie between 10 and 250?

23 **Find the area of the rhombus if its vertices are (3, 0), (4, 5), (-1, 4) and (-2, -1) taken in order.**

24 **In the figure, DE||AC and $\frac{BE}{EC}=\frac{BC}{CP}$, prove that DC//AP**



Or

Prove that: $(\sec A+\tan A)(1-\sin A)=\cos A$

25 **A hemispherical depression is cut out from one face of cubical wooden block such that the diameter 'x' of the hemisphere is equal to the edge of the cube. Determine the surface area of the remaining solid.**

26 **The marks obtained by 30 students in a mathematics examination are given below, find Mode.**

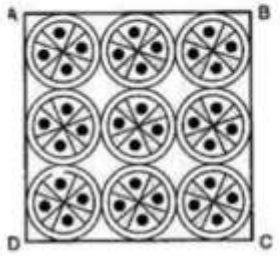
Marks	10-25	25-40	40-55	55-70	70-85	85-100
No. of students	2	3	7	6	0	6

Part –B

All questions are compulsory. In case of internal choices, attempt anyone.

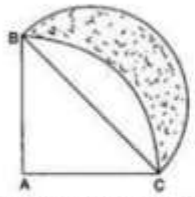
(3 marks each)

27 **On a square handkerchief, nine circular designs each of radius 7 cm are made (see figure). Find the area of the remaining portion of the handkerchief.**

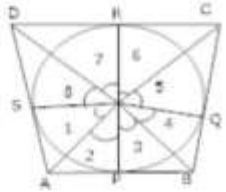


OR

In figure, ABC is a quadrant of a circle of radius 14 cm and a semicircle is drawn with BC as diameter. Find the area of the shaded region.



28 **Prove that opposite sides of a quadrilateral circumscribing a circle subtend supplementary angles at the centre of the circle.**



OR

A circle is touching the side BC of Δ ABC at P and touching AB and AC produced at Q and R respectively. Prove that AQ =1/2 (perimeter of ΔABC).

29 **Construct a tangent to a circle of radius 4 cm from a point on the concentric circle of radius 6 cm and measure its length. Also verify the measurement by actual calculation.**
(write very brief steps of construction)

30 If the polynomial $f(x) = x^4 + 5x^3 + 4x^2 - 10x - 12$ has two zeroes as (-2) and (-3), then find the other zeroes.

31 Determine the ratio in which the line $2x + y - 4 = 0$ divides the line segment joining the points A(2, – 2) and B(3, 7).

32 The following distribution shows the daily pocket allowance of children of a locality. The mean pocket allowance is Rs 18. Find the missing frequency *f*.

Daily pocket allowance(in Rs.)	11-13	13-15	15-17	17-19	19-21	21-23	23-25
Number of children	7	6	9	13	f	5	4

33 Prove that: $\frac{\cos A}{1+\sin A} + \frac{1+\sin A}{\cos A} = 2\sec A$

OR

The distribution below gives the weights of 30 students of a class. Calculate the median weight of the students:

Weight (in kg)	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75
No. of students	2	3	8	6	6	3	2

Part –B

All questions are compulsory. In case of internal choices, attempt anyone.
(5 marks each)

34 A swimming pool is filled with three pipes with uniform flow. The first two pipes operating simultaneously fill the pool in the same time during which the pool is filled by the third pipe alone. The second pipe fills the pool five hours faster than the first pipe and four hours slower than the third pipe. Find the time required by each pipe to fill the pool separately.

OR

If the roots of the equation $(a - b)x^2 + (b - c)x + (c - a) = 0$ are equal, prove that $2a = b + c$

35 (i) Prove that in right triangle, the square of the hypotenuse is equal to the sum of squares of the other two sides.

(ii) A guy wire attached to a vertical pole of height 18 m is 24 m long and has a stake attached to the other hand. How far from the base of the pole should the stake be driven so that the wire will be taut?

36 The angle of elevation of the top of a building from the foot of the tower is 30^0 and the angle of elevation of the top of the tower from the foot of the building is 60^0. If the tower is 50 m high, find the height of the building.

SANSKRIT

5. निम्नवाक्यानि घटनाक्रमानुसारं पुनर्लिखत–

1. (i) तस्मै ज्ञानदातुम् इन्द्रः वेशं परिवर्त्य तस्य समीपम् अगच्छत्।
(ii) इदं श्रुत्वा तपोदत्तः विद्यां प्राप्तुं गुरुकुलम् अगच्छत्।
(iii) तदा तपोदत्तः इदं दृष्ट्वा तस्य उपहासं करोति।
(iv) एकः तपोदत्तः तपस्यारतः बालकः आसीत्।
(v) सः कथयति–भोः! कथमेतत् व्यर्थमेव सिक्ताभिः सेतुनिर्माणं करोषि।
(vi) सः पुरुषः गंगायाः सिक्ताभिः सेतुनिर्माणम् आरभत।
(vii) सः विद्याप्राप्त्यै अध्ययनं न कृत्वा केवलं तपः एव अकरोत्।
(viii) इन्द्रः अवदत् यदि तपसा एव त्वं विद्या प्राप्स्यसि तर्हि अहमपि सिक्ताभिः सेतुनिर्माणं करिष्यामि।

उत्तराणि–(i) एकः तपोदत्तः तपस्यारतः बालकः आसीत्।
(ii) सः विद्याप्राप्त्यै अध्ययनं न कृत्वा केवलं तपः एव अकरोत्।
(iii) तस्मै ज्ञानदातुम् इन्द्रः वेशं परिवर्त्य तपः समीपम् अगच्छत्।
(iv) सः पुरुषः गंगायाः सिक्ताभिः सेतुनिर्माणम् आरभत।
(v) तदा तपोदत्तः इदं दृष्ट्वा तस्य उपहासं करोति।
(vi) सः कथयति–भोः! कथमेतत् व्यर्थमेव सिक्ताभिः सेतुनिर्माणं करोषि।
(vii) इन्द्रः अवदत् यदि तपसा एव त्वं विद्या प्राप्स्यसि तर्हि अहमपि सिक्ताभिः सेतुनिर्माणं करिष्यामि।
(viii) इदं श्रुत्वा तपोदत्तः विद्यां प्राप्तुं गुरुकुलम् अगच्छत्।

2. (i) इदं दृष्ट्वा तस्मै ज्ञानं दातुम् देवराजः इन्द्रः वेशं परिवर्त्य तत्रागच्छत्।
(ii) इदं श्रुत्वा इन्द्रः अवदत् यथा त्वं पठनं, लेखतं लिपि अभ्यासं च विना विद्यां प्राप्तुम् इच्छसि।
(iii) सः गंगायाः सिक्ताभिः तस्य समक्षे सेतुं निर्मातुम् आरभत।
(iv) परं वारं-वारं जले सेतु सिक्ता प्रवहत्।
(v) एकः कश्चित् तपोदत्तः नामकः बालकः विद्यां प्राप्तुं तपः करोति स्म।
(vi) 'तथैव अहमपि सिक्ताभिः सेतुनिर्माणं करिष्यामि'। इदं श्रुत्वा सः पठनाय गुरुकुलम् अगच्छत्।
(vii) इदं दृष्ट्वा तपोदत्तः अहसत् अवदत् च–सिक्ताभिः सेतु निर्माणं कथं भविष्यति?
(viii) परं तस्मै कापि सफलता न अमिलत्।

उत्तराणि–(i) एकः कश्चित् तपोदत्तः नामकः बालकः विद्यां प्राप्तुं तपः करोति स्म।
(ii) परं तस्मै कापि सफलता न अमिलत्।
(iii) इदं दृष्ट्वा तस्मै ज्ञानं दातुम् देवराजः इन्द्रः वेशं परिवर्त्य तत्रागच्छत्।
(iv) सः गंगायाः सिक्ताभिः तस्य समक्षे सेतुं निर्मातुम् आरभत।
(v) परं वारं-वारं जले सेतु सिक्ता प्रवहत्।
(vi) इदं दृष्ट्वा तपोदत्तः अहसत् अवदत् च–सिक्ताभिः सेतु निर्माणं कथं भविष्यति?

VIDEO LINK: https://www.youtube.com/watch?v=a8HsqA18alQ&authuser=0