EAST POINT SCHOOL

CLASS X

ONLINE ASSIGNMENT 25

ENGLISH

GRAMMAR REVISION

PRACTICE 1

Q1. Fill in the blanks choosing the most appropriate option from the ones given in the box. Write the answers in your answer-sheet against the correct blank numbers. (1 × 4 = 4)

Butterflies are abundant (a) _____ the Central African Republic. It (b) _____ home to nearly 600 identified species. Many butterflies are brilliantly coloured and small (c) _____ some are as big as saucers. Farmer Philippe (d) _____ solace in collecting butterfly wings from his fi elds and turning them into works of art. My favourite hobby, since my childhood, is catching butterflies.
(a) (i) in (ii) from
(iii) for (iv) into
(b) (i) has (ii) is(iii) was (iv) are
(c) (i) if (ii) therefore
(iii) so (iv) while
(d) (i) fi nd (ii) to fi nd
(iii) fi nding (iv) fi nds

Q2. In the following passage one word has not been edited in each line. Write the incorrect word along with the correct word in the space provided. (1 x 4 = 4)

	Incorrect	**Correction**
In Himalayas, the desert is turning green	e.g. the	a
Climate change in a Indian region of	(a) _____	_____
Ladakh has shrunk glaciers or has made rainfall	(b) _____	_____
and temperature unpredictable. Water has	(c) _____	_____
needed to irrigating the fi elds.	(d) _____	_____
Farmers may require aid from the government.		

PRACTICE 2

Q3. Fill in the gaps by choosing the most appropriate words from the options given below. (1 × 4 = 4)

Today we (a) _____ all familiar with the use of fingerprinting. It is a very important and is fighting crime. (b) _____ many people do not know that it was in India (c) _____ fingerprints (d) _____ first used for catching criminals. Fingerprints can be found on practically any solid surface including the
human body.
(a) (i) are (ii) is

(iii) were (iv) was
(b) (i) Since (ii) But
(iii) And (iv) Though
(c) (i) which (ii) who
(iii) that (iv) where
(d) (i) was (ii) is
(iii) are (iv) were

Q4. The following passage has not been edited. There is one error in each line. Write the incorrect word and the correction against each line of the passage.
(1 × 4 = 4)

		Incorrect	Correction
Essex Farms is the famous resort.	e.g.	the	a
It is located in Aurobindo Marg.	(a)		
It has the bowling alley and lots	(b)		
with games for children to play.	(c)		
The multi cuisine restaurant add for the charm.	(d)		
This resort gives you a choice of air conditioned rooms.			

ECONOMICS

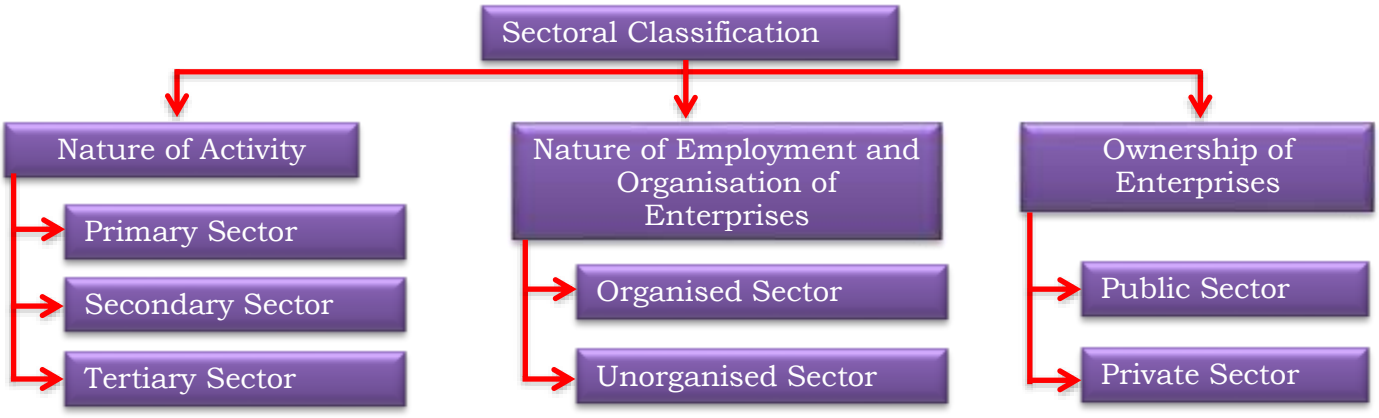
Class: Xth **Subject: Social Science (Economics)**

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.

Assignment

1) **How are all the three sectors of the economy interdependent? Explain this interdependence with the help of an example. [2012] (3)**
2) **How the classification of economic activities into primary, secondary and tertiary sectors is useful? Explain. (3)**
3) **Explain the importance of primary sector in the Indian economy. (5)**
4) **Explain with example the method of calculating Gross Domestic Product. Why are only 'final goods and services' counted in G.D.P.? [2014, 2013, 2012] (5)**
5) **Describe the historical changes that have taken place in the sectors of the economy in the developed countries. [2012, 2015] (5)**

6) **"When a country develops, the contribution of primary sector declines and that of secondary and tertiary sector increases." Analyse the statement.**

7) **Why is the tertiary sector becoming more important in India? Explain by giving four reasons.**

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

GEOGRAPHY

Ch 3: Agriculture

Group 1

1. Which is helpful in inventing new hybrid varieties of seeds?(1 mark)
   (A) Green Revolution
   (B) White Revolution
   (C) Genetic Engineering
   (D) Scientific Research
2. Match the following conditions with the different crops growth:Crop Ideal condition(1 mark)
   A. Rice (i) Temperature- 25°C, Rainfall- 100 cm-200 cm.
   B. Wheat (ii) Temperature- 20-25°C, Rainfall- 50 cm-75 cm
   C. Maize (iii) Temperature- 21-27°C, Rainfall- 50 cm-75 cm
   D. Pulses (iv) Temperature- 20-25°C, Rainfall- 50 cm-75 cm
   (A) A-(iii), B-(iv), C-(i), D-(ii)
   (B) A-(iii), B-(iv), C-(ii), D-(i)
   (C) A-(i), B-(ii), C-(iii), D-(iv)
   (D) A-(i), B-(ii), C-(iv), D-(iii)
3. What is the rank, India holds in cotton production in the world? Name the major cotton producing state of India.(3 marks)
4. Distinguish Between Dry and Wet Agriculture(3 marks)
5. Why is food Security is a big concern for the small farmers?(5 marks)

Group 2

1. The excessive use of fertilizers and water has affected the soil-Explain?(1 mark)
2. Mention two reasons for the reduction of net sown area in our country.(1 mark)
3. Mention the government of India's efforts to modernize agriculture.(5 marks)
4. Give the main objectives of food security policy of government of India. What is the role of FCI?(3 marks)
5. What is the importance of agriculture in Indian economy?(3 marks)

Group 3

1. Name three important wheat-producing states of India.(1 mark)
2. Mention three spice-producing states of India(1 mark)
3. What is the importance of animal husbandry in India?(3 marks)
4. Describe the distribution of rice cultivation in India.(3 marks)
5. Why is food Security is a big concern for the small farmers?(5 marks)

Video link :

https://youtu.be/2piqhlmbz0I

https://youtu.be/GoSOOd3N7S0

Activity:

On the political map of India show major wheat and rice producing states.

HISTORY

Long Answer Type Questions [5 Marks]

Q1. Describe any five steps taken by the French Revolutionaries to create a sense of collective identity among the French people.

Q2. "The idealistic liberal-democratic sentiment of nationalism in the first half of the nineteenth century became a narrow creed with limited ends." Examine the statement.

Q3. How did the local people in the areas conquered by Napoleon react to French rule? Explain.

Q4. Explain the conditions that were viewed as obstacles to the economic exchange and growth by the new commercial classes during the 19th century in Europe.

Q5. What were Jacobin Clubs? How did their activities and campaigns help to spread the idea of nationalism abroad? Explain.

Q6. Explain any five social and administrative reforms introduced by Napoleon in the regions under his control.

Q7. How had revolutionaries spread their ideas in many European states after 1815. Explain with examples.

Q8. Explain the process of unification of Italy.

Q9. Explain the process of unification of Germany.

Q10.How had Britain come into existence?

Q11.Why was the decade of 1830s known as great economic hardships in Europe? Explain any three reasons.

Q12.Name the female allegory, which was invented by artists in the 19th century to represent the nation of France. Explain any two features of it.

Q13.How did culture play an important role in creating the idea of the nationalism in Europe? Explain with examples.

Q14.Describe the role of culture in shaping the feelings of nationalism in Europe from 1830 to the end of 19th Century.

Q15.How did Balkans become the most serious source of nationalist tension in Europe after 1871? Explain with examples.

https://www.youtube.com/watch?v=OaL5WMhDwgk&authuser=0

POLITICAL SCIENCE

Important Questions

Political Science Chapter-2

Federalism

3 marks Questions

1. Why is the central government of India not compelling states to adopt Hindi as their official language?

Ans. a) India is multilingual country. According to the census of 1991 recorded more than 1500 distinct languages, people mentioned their mother tongues.

b) Hindi is mother tongue of only 40% of the people of India.

c) There are 21 languages recognized by the constitution.

d) In states of Southern India there has been violent opposition to Hindi.

2. Contrast a federal system of government with a unitary set-up with examples.

Ans. a) Federalism has at least two levels of government.

b) The central government is responsible for subjects of national importance.

c) The state government looks after the daily administration of the states.

d) In Unitary system there is only one level of government and if any subunits are there that remains subordinate to the central government.

3. Highlight the two types of routs through which the federations are formed. Give example.

Ans. a) When independent states come together and form a federation is coming together route. Example: USA, Switzerland and Australia.

b) When a country decides to divide its power between the constituent state and the national government that is holding together route. Example: India, Spain and Belgium.

4. Explain the role of union list, state list and concurrent list with context to India.

Ans. a) Union list includes those subjects which are of national interest and on which a uniform policy is needed in the whole country. The Union Government makes laws on these subjects. Example, defense, foreign affairs and banking.

b) State list includes subjects of state and local importance example, police, trade, agriculture etc.

c) Concurrent list includes subjects of common interest to the Union Government and the

State Government, Example: Education, forest etc.

5. What are significances of Panchayat Raj?

Ans. a) It is the third level of Indian Federal System.

b) This level gives a chance to the people to become the representatives of people.

c) There are 36 lakhs elected representatives in the local bodies.

d) There is reservation for women, SCs and STs.

e) They strengthen the democratic system of India.

6. Explain the organization of the local government bodies of urban areas.

Ans. a) Local Government bodies exist in urban areas also. In Towns there are municipalities

and in big cities there are municipal corporations.

b) Both municipalities and municipal corporations are controlled by elected bodies

consisting of people's representatives.

c) Municipality is headed by the chairman and Municipal Corporation is headed by the

Mayor.

- https://youtu.be/YfnCDP8XlSk

PHYSICS

CHAPTER -11

The Human Eye and the Colourful World

MULTIPLE CHOICE QUESTIONS

1.The image formed by the retina of the human eye is

(i)Virtual and erect (ii)Real and inverted (iii)Virtual and inverted (iv)Real and erect

2.The change in the focal length of the human eye is caused due to

(i)Ciliary muscles (ii)Pupil (iii)Cornea (iv)Iris

3.The least distance of distinct vision for a young adult with normal vision is

(i)25m (ii)20m (iii)25cm (iv)20cm

FILL IN THE BLANKS

4.Most of the refraction of light rays entering the eye occurs at the outer surface of the----.

5.The part of eye sensitive to light is-----.

6.The part of the eye which alters the size of the pupil is----.

ONE MARK QUESTIONS

7.Name the part of an eye which is equivalent to

(i)Diaphragm (ii)Camera

8.A person is advised to wear spectacles with concave lenses. What type of defect of vision is he suffering

from?

9.Why does it take some time to see in a dim room when you enter the room from the bright sunlight?

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 Blue colour of the sky appears due to the scattering of light.

Reason: Blue colour has the shortest wavelength among all the colours of the white light.

11.Assertion: A normal human eye can see all the objects beyond a certain minimum distance.

Reason: The human eye can suitably adjust the focal length of its lens to a certain extent.

12.Assertion: Owls can move freely during the night.

Reason: They have a large number of rods on their retina.

THREE MARK QUESTIONS

13.A person is unable to read a book clearly when kept at a distance of 25cm from his eye. Name the defect.

How can it be corrected? Draw ray diagrams for

(i) Defective eyes

(ii) Corrected eyes.

14.(a) Mention the names of two phenomena due to which a rainbow is formed.

(b) Explain with the help of a diagram of how a rainbow is formed.

15.Draw a labelled diagram of the human eye. What is the significance of the blind spot and yellow spot?

16.(i) Demonstrate an activity with a labelled diagram to prove that white light is made up of seven colours.

(ii) Why do different colours get separated when white light passes through a prism?

(iii) How can we recombine the components of white light after a prism has separated them? Explain with the help of a diagram.

FIVE MARK QUESTIONS

17.(a) A child reads words of a book with the help of a convex lens keeping it close at the book. He finds words

enlarged and erect then he gradually withdraws the lens away from the book. At one position the words again become distinctly visible but this time these are enlarged and inverted. Explain this difference with the help of a ray diagram for both the cases.

(b) A concave lens has a focal length of 15cm. At what distance should the object from the lens be placed so

that it forms an image at 10cm from the lens? Also, find the magnification.

18.(a) Ravi is given lenses with powers+5D,-5D, +10D,-10D and -20D.Considering a pair of lenses at a time,

which two lenses will he select to have a combination of total focal length when two lenses are kept in contact in each case. (i)-10cm (ii)20cm (iii)-20cm

(b) A person having presbyopia uses a bifocal lens to restore proper vision. Which part of the lens is convex and which part is concave?

19.A narrow beam PQ of white light is passing through a glass prism ABC as shown in the diagram.

Trace it on your answer sheet and show the path of the emergent beam as observed on the screen DE. (i)Write the name and cause of the phenomenon observed. (ii)Where else in nature is this phenomenon observed?

(iii)Based on this observation, state the conclusion which can be drawn about the constituent of white light.

20.CASE STUDY-

Answer question numbers 20(a) to 20(d) based on your understanding of the following paragraph and the related studied concepts.

When light falls on the prism it splits the incident light into a band of colours. The sequence of colours

observed is VIBGYOR (Violet, Indigo, Blue, Green, Yellow, Orange and Red). This band of colour is known as

Spectrum. So, this splitting of incident light into different colours is known as Dispersion. This splitting is due to the bending of light rays at different angles.

(a) Which colour has the highest

wavelength? (b)Which colour has the highest velocity? (c)Which colour has the highest refractive index? (d)Why the dispersion of light takes place.

LEVEL-1

Q 1 What happens to the image distance in the eye when we increase the distance of an object from the eye? Mark (1)

Q 2 Why does the sky appear dark instead of blue to an astronaut? Mark (1)

Q 3 What do you understand by power of accommodation of the eye? Mark (1)

Q 4 Which part of the eye causes change in the focal length of the eye lens? Mark (1)

Q 5 In an eye, where is image formed? Mark (1)

Q 6 Explain tyndall effect. Mark (1)

Q 7 Where is far point located for a normal eye? Mark (1)

Q 8 Cylindrical lenses are used to correct which type of defects of vision? Mark (1)

Q 9 Which type of lens is used to correct Hypermetropia ? Mark (1)

Q 10 What is the cause of cataract? Mark (1)

Q 11 When white light travels through prism, which colour travels slowest? Mark (1)

Q 12 What is a simple microscope? Mark (1)

Q 13 In spectrum of white light passing through a prism ,which colour bends the least? Mark (1)

Q 14 What happens to the image distance in the eye when we increase the distance of an object from the eye? Mark (1)

Q 15 Name the phenomenon occurring in the nature due to dispersion of light. Mark (1)

LEVEL-2

Q 1 Why one cannot see the things clearly for some time, as soon as , the person enters a dim room from bright light ? Marks (2)

Q 2 Why do stars twinkle?Marks (2)

Q 3 Define dispersion and spectrum? Marks (2)

Q 4 Define least distance of distinct vision.What is the least distance of distinct vision for a normal adult? Marks (2)

Q 5 A patient is unable to see distant objects clearly but can see nearby objects. The doctor told him that he is suffering from an eye defect. Can you guess the eye defect and its remedy? Marks (2)

Q 6 The power of a convex lens is + 2.5 D. Calculate its focal length. Marks (2)

Q 7 A student has difficulty in reading the black board while sitting in the last row. What would be the defect the student is suffering from? How can it be corrected? Marks (2)

Q 8 You are asked to set up traffic lights for a railway station, which colour would you choose as the danger signal and why?Marks (2) Q 9 What is the cause of myopia and how it can be corrected? Marks (2)

Q 10 Why does the sky appear black instead of blue to an astronaut? Marks (2)

Q 11 A student looks at an aeroplane flying overhead for some time. Then he suddenly moves his eyes away from it. However, he experiences that the image of the aeroplane was still there in his eyes for a fraction of second. He is surprised but unable to

understand the reason. Can you explain? Marks (2)

Q 12 What is the reason that we can‟t see an object clearly if it is placed very close to our eyes? Marks (2)

Q 13 Calculate the maximum power of accommodation of a person having normal vision. Marks (2)

Q 14 What happens to the image distance in an eye if we increase the distance of an object from the eye?Marks (2)

Q 15 Parul has difficulty in watching the whiteboard while sitting in the last row. What is the eye defect she is suffering from? How this defect can be removed? Marks (2)

Q 16 What is presbyopia? How is it corrected? Marks (3)

Q 17 The far point of a myopic person is 40cm in front of the eye. Determine the nature and power of the lens required to correct the problem. Marks (3)

Q 18 Sun is visible to us about 2 minutes before the actual sunrise and about 2 minutes after the actual sunset. Explain the reason? Marks (3)

Q 19 A person is suffering from far-sightedness. His near point is 50 cm. How can you calculate the focal length and power of the lens used by him if he wants to read a book placed 20 cm away? Marks (3)

Q 20 The near point of a person suffering from far-sightedness is 60 cm. What will be the type of lens and its focal length to correct this defect of vision? Marks (3)

Q 21 What is myopia? The far point of myopic eye is at 50 cm. Calculate the power of the lens to correct the vision. Marks (3)

Q 22 What is presbyopia? Write down the two causes of this defect. Marks (3)

Q 23 What is meant by scattering of light? What is the condition for Rayleigh scattering? Why blue light can be scattered more easily as compared to red light? Marks (3)

Q 24 What is the cause of dispersion? Marks (3)

Q 25 Explain the statements given below.

(i) Having two eyes enable a wider field of view.

(ii) Having two eyes enable us to judge distances more accurately. Marks (3)

LEVEL-3

Q1.What is short sightedness or myopia? What causes myopia? How is myopia corrected? Marks (5)

Q 2 Explain the reason behind the colour of the sky. Why astronauts see only darkness when they look away from the sun? Marks (5)

Q 3 Why does the colour of the sun look different at different times of a day? Explain. Marks (5)

Q 4 Explain the following. (i) Danger signals are red.

(iii) Human eye can be treated as an optical instrument. Marks (5)

Q 5 What is far point, near point and range of vision?

The near point of a hypermetropic eye is at 75 cm from the eye. What is the power of the lens required to enable the person to clearly read the newspaper at 25 cm away from the eye? Marks (5)

Q 6 What do you understand by scattering of light? Write down an activity to observe the scattering of light. Marks (5)

https://youtu.be/73c_0ZAqSU0

CHEMISTRY

PERIODIC CLASSIFICATION OF ELEMENTS

Level 1

LONG ANSWER TYPE QUESTION:

Q1. a) The modern periodic table has been evolved through the early attempts of Dobereiner, Newland and Mendeleev. List one advantage and one disadvantage of all three attempts.

b) Name the scientist who first of all showed that atomic number of an element is more fundamental property than its atomic mass.

c) State Modern Periodic Law.

Q2. The elements Li, Na and K each having one valence electron are in the 2nd, 3rd and 4th period respectively of Modern Periodic Table. Answer the following questions giving reasons:

(i) In which group should they be placed?
(ii) Which one of these elements is least reactive?
(iii) Which one of these elements has the largest atomic radius?

Q 3. Explain giving justification the trends in the following properties of elements, on moving from left to right in a period, in the Modern periodic Table.
(a) Variation of valency.
(b) Change of atomic radius.
(c) Metallic to non-metallic character.
(d) Electronegative character.
(e) Nature of oxides.

Q4. (a) What was the basis of Mendeleev's classification of elements?
(b) List two achievements of Mendeleev's periodic tables.
(c) List any two observations which posed a challenge to Mendeleev's periodic law

Level 2

MULTIPLE CHOICE QUESTIONS

1. Element 'X' forms a chloride with the formula XCl_2, which is a solid with high melting point. X would most likely be in the same group of the periodic table as:
(a) Si
(b) Mg
(c) Al
(d) Na

2. Which of these belong to the same period?

Element	A	B	C
Atomic number	2	10	5

(a) A, B
(b) B, C
(c) C, A
(d) A, B and C

3. Carbon belongs to the second period and Group 14. Silicon belongs to the third period and Group 14. If atomic number of carbon is 6, the atomic number of silicon is
(a) 7
(b) 14
(c) 24
(d) 16

3. Pick out the chemically most reactive elements from the given triads.
Li, Na, K F, Cl, Br
(a) Li and F
(b) Li and Br
(c) K and F
(d) K and Br

4. What is the atomic number of element of period 3 and group 17 of the Periodic Table?
(a) 10
(b) 4
(c) 17
(d) 21

5. Which one of the following statements is not correct about the trends in the properties of the elements of a period on going from left to right?
(a) The oxides become more acidic
(b) The elements become less metallic
(c) There is an increase in the number of valence electrons
(d) The atoms lose their electrons more easily

6. The elements A, B and C belong to groups 1, 14 and 17 respectively of the Periodic Table. Which two elements will form ionic compounds?
(a) A and B
(b) A and C
(c) B and C
(d) None

7. An element X from group 2 of the Periodic Table reacts with Y from group 17 to form a compound. Give the formula of the compound.
(a) XY_2
(b) XY
(c) X_2Y
(d) $(XY)_2$

8. A metal 'M' is in the first group of the Periodic Table. What will be the formula of its oxide?
(a) MO
(b) M_2O
(C) $M2O_3$
(d) MO_2

9. Name the neutral atom in the Periodic Table which has the same number of electrons as K^+ and Cl^-.
(a) Helium

(b) Argon
(c) Neon
(d) Krypton

10. An element X combines with oxygen to form an oxide XO. This oxide is electrically conducting. Write the formula of the compound formed when X reacts with chlorine.
(a) XCl_3
(b) XCl
(c) XCl_2
(d) XCl_5

11. An element X has mass number 40 and contains 21 neutrons in its atom. To which group of the Periodic Table does it belong?
(a) Group 1
(b) Group 4
(c) Group 2
(d) Group 3

Level 3

MULTIPLE CHOICE QUESTIONS:

1. The elements A, B and C belong to groups 1, 14 and 17 respectively of the Periodic Table. Which two elements will form ionic compounds?
(a) A and B
(b) A and C
(c) B and C
(d) None

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(a) Group 1
(b) Group 4
(c) Group 2
(d) Group 3

7. Consider the following elements
$_{20}Ca$, $_{8}O$, $_{18}Ar$, $_{16}S$, $_{4}Be$, $_{2}He$
Which of the above elements would you expect to be in group 16 of the Periodic Table?
(a) $_{20}Ca$ and $_{16}S$
(b) $_{20}Ca$ and $_{8}O$
(c) $_{18}Ar$ and $_{16}S$
(d) $_{8}O$ and $_{16}S$

8. An element 'A' belongs to the third period and group 16 of the Periodic Table. Find out the valency of A.
(a) Valency = 6
(b) Valency = 2
(c) Valency = 1
(d) Valency = 3

9. Which one of the following statements is not correct about the trends in the properties of the elements of a group on going down in a group?
(a) The chemical reactivity of metals increases.

(b) The metallic character of elements increases.
(c) The size of the atom increases.
(d) The valence electrons increase.

10. Which of the following set of elements is written in order of their increasing metallic character?
(a) Na Li K
(b) C Q N
(c) Mg Al Si
(d) Be Mg Ca

https://www.youtube.com/watch?v=kymDep3-6yU&authuser=0

BIOLOGY

Revision Assignment

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

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

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

4. How much percentage of solar energy is absorbed by the green plants?

5.Name any two abiotic components of an environment.

6. Write the balanced chemical equation for the process of photosynthesis

7. **Assertion**: Each step or level of the food chain forms a trophic level.

Reason: The various components of the ecosystem are interdependent

8. **Assertion:** Variations arising during the process of reproduction cannot be inherited.

Reason: Variations may lead to increased survival of the individual

9. How do Mendel's experiments show that traits may be dominant or recessive?

10. "Human beings occupy the top level in any food chain." What are the consequences of this on our body?

COMPUTER

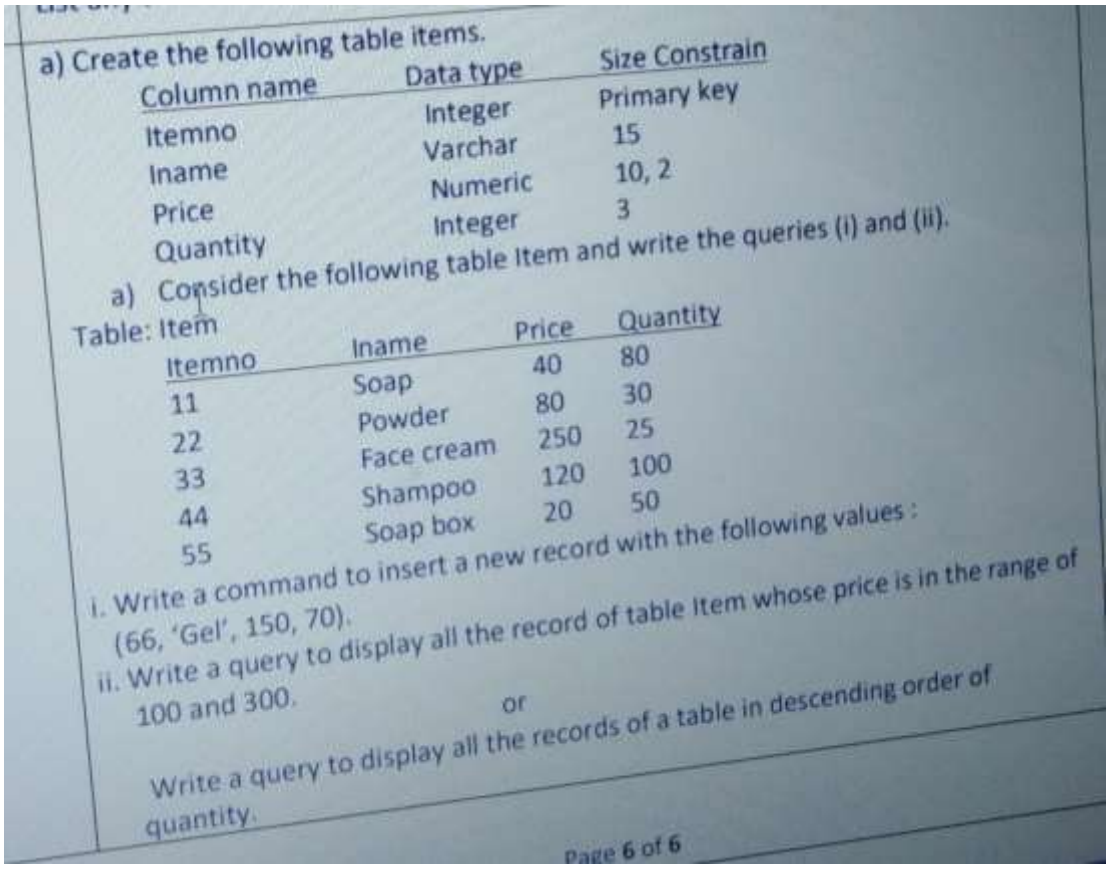
ASSIGNMENT
DATABASE DEVELOPMENT

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.



a) Create the following table items.

Column name	Data type	Size Constrain
Itemno	Integer	Primary key
Iname	Varchar	15
Price	Numeric	10, 2
Quantity	Integer	3

a) Consider the following table Item and write the queries (i) and (ii).

Table: Item

Itemno	Iname	Price	Quantity
11	Soap	40	80
22	Powder	80	30
33	Face cream	250	25
44	Shampoo	120	100
55	Soap box	20	50

i. Write a command to insert a new record with the following values :
(66, 'Gel', 150, 70).
ii. Write a query to display all the record of table Item whose price is in the range of
100 and 300.

or

Write a query to display all the records of a table in descending order of
quantity.

Page 6 of 6

VIDEO LINK

https://www.youtube.com/watch?v=cpokf1qzwd0

MATHEMATICS

Time Allowed : 3 hours] [*Maximum Marks* : 80

General Instructions:

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 three sections I and II.
2. Section I has 16 questions of 1 mark each. Internal choice is provided in 5 questions.
3. Section II has 4 questions on case study. 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

Section I has 16 questions of 1 mark each. Internal choice is provided in 5 questions.

1. Express 5005 as a product of its prime factor.

OR

The product of two numbers is 3691 and their LCM is 3691. Find the HCF.

2. Determine the roots of the equation $x^2 - 3x - m(m + 3) = 0$, where m is any constant.

3. Find whether the following pairs of linear equations $2x - 3y = 1$ and $3x - 2y = 4$ have unique solution, no solution or infinitely many solution.

4. In an A.P., $a = 3.5, d = 0$ and $n = 101$, find a_n

5. Find the number of zeroes of given polynomial

$$f(x) = (x-2)^2 + 4$$

OR

Determine the zeroes of the polynomial $z^2 - 27$.

6. Which term of the AP 14, 11, 8, ... is – 1.

7. Find the discriminant of the given quadratic equation

$$3\sqrt{3}x^2 + 10x + \sqrt{3} = 0$$

8. In ΔABC and ΔDEF, $\frac{AB}{DE} = \frac{BC}{FD}$. At what possible condition $\Delta ABC \sim \Delta EDF$

9. Draw a circle and two lines parallel to a given line such that one is a tangent and other is secant to a circle.

10. How many number of tangents to a circle can be drawn which are parallel to a secant of a circle?

11. A line segment AB = 8 cm is divided in the ratio 3 : 2 by a ray at point P lies on AB. Find the distance of point P from A.

12. At sometime, the length of a shadow of a tower is $\sqrt{3}$ times its height. Find the angle of elevation of the sun at that time.

13. For what value of θ, $\cot 3\theta = \cot(30° + \theta)$

OR

Find the value of θ, where $\sqrt{3}\sin\theta - \cos\theta = 0$ and $0 < \theta < 90°$.

14. The surface area of a sphere is 616 cm^2. Find the radius of the sphere.

15. Find the area of a quadrant of a circle whose circumference is 44 cm.

OR

Find the perimeter of a square circumscribing a circle of radius x cm.

16. 2000 tickets of a lottery were sold and there are 16 prizes on these tickets. Abhinav purchased one lottery ticket. What is the probability that Abhinav wins a prize?

OR

A pair of dice is thrown once. What is the probability of getting a same number on each dice.

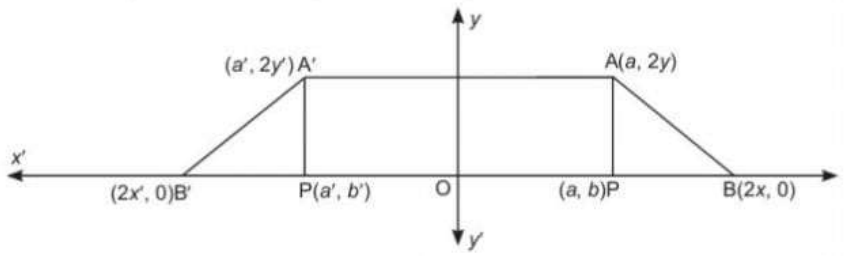
Section – II

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

Case Study based - 1

FLOOR DESIGN

17. A floor designed is made by 2-dimensional geometrical figures as shown on coordinate axes.



Coordinates of points are also represented. Here A′P′B′ is mirror image of APB along y axis.

Answer the following questions based on above diagram.

(*a*) Determin coordinates of mid point of PP′.

(*i*) $\frac{a}{2}, \frac{b}{2}$ (*ii*) $\frac{a'}{2}, \frac{b'}{2}$ (*iii*) (0, 0) (*iv*) $\frac{a+b}{2}, \frac{a'+b'}{2}$

(*b*) The distance of point P from y-axis is.

(*i*) a' (*ii*) b' (*iii*) b (*iv*) a

(*c*) Distance PP′ is

(*i*) $\sqrt{(a-a')^2+(b-b')^2}$ (*ii*) $\sqrt{a^2+b^2}$

(*iii*) $\sqrt{a'^2+b'^2}$ (*iv*) 0

(*d*) The distance AA′ is

(*i*) $\sqrt{(a^2-a'^2)+(2y)^2}$ (*ii*) $\sqrt{(a-a')^2+(2y-2y')^2}$

(*iii*) $\sqrt{(2y-2y')^2+a'^2}$ (*iv*) $\sqrt{a^2+a'^2+2y^2+2y'^2}$

(*e*) The distance between the points BB′ is.

(*i*) $\sqrt{2x^2+2x'^2}$ (*ii*) $\sqrt{4x^2+4x'^2+8xx'}$

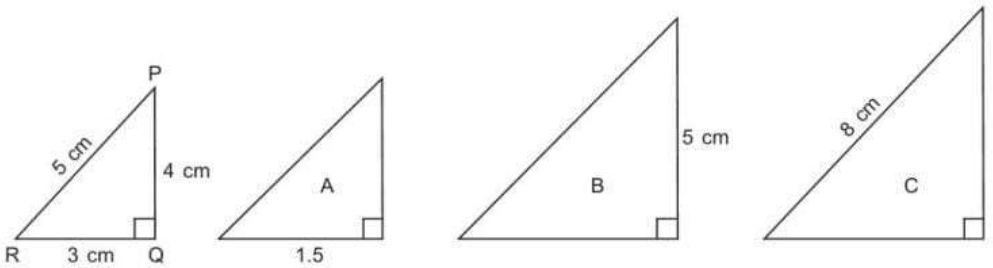
(*iii*) $\sqrt{(2x-0)^2+(2x'+y)^2}$ (*iv*) $\sqrt{(x-x')^2}$

Case Study based - 2

RATIO OF THE SIDES OF SIMILAR TRIANGLE

18. A triangle PQR with sides 3 cm, 4 cm and 5 cm is shown.

Triangle A, triangle B and triangle C are all similar to triangle ΔPQR.



(*a*) Which ratio can be used to determine the base of triangle B?

(*i*) 5 : 3 (*ii*) 3 : 4 (*iii*) 4 : 5 (*iv*) 5 : 5

(*b*) Which ratio can be used to determine the hypotenuse of triangle B?

(*i*) 5 : 4 (*ii*) 5 : 3 (*iii*) 3 : 4 (*iv*) 4 : 4

(*c*) Which ratio can be used to determine the hypotenuse of triangle A?

(*i*) 5 : 4 (*ii*) 4 : 3 (*iii*) 5 : 3 (*iv*) 4 : 5

(*d*) The unknown lengths of triangle A are

(*i*) 2 cm, 2 cm (*ii*) 2.5 cm, 2 cm (*iii*) 2.5 cm, 2.5 cm (*iv*) 1 cm, 2 cm

(*e*) The unknown length of triangle C are

(*i*) 6.4 cm, 4.8 cm (*ii*) 6.8 cm, 4.4 cm

(*iii*) 6 cm, 2.4 cm (*iv*) 4 cm, 2 cm

Case Study based - 3

APPLICATION OF LINEAR EQUATIONS

19. A cab company charges ₹ 200 boarding rate in addition to this they also charges ₹ 10 for travelling every kilometre

(*a*) What linear equation represents the rate of this company?

(*i*) $y = 200 + 10$ (*ii*) $y = 200x + 10$ (*iii*) $y = 10x + 200$ (*iv*) $y = 12x + 1200$

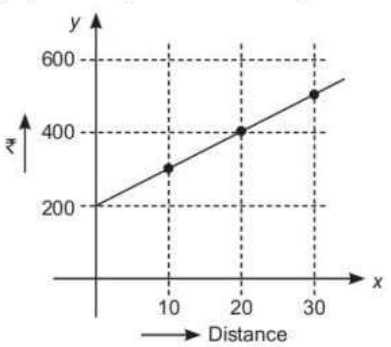
where 'x' is distance travelled in km and ₹ y is total charges.

(*b*) What are the charges, if a person travels 12 km in day

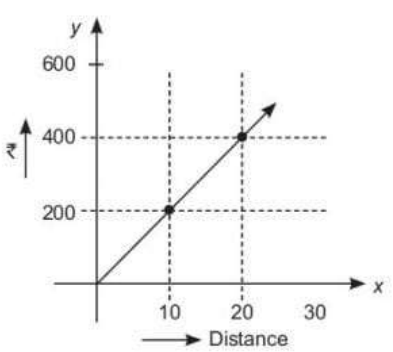
(*i*) ₹ 320 (*ii*) ₹ 372 (*iii*) ₹ 720 (*iv*) ₹ 1272

(*c*) The graphical representation of given situation is.

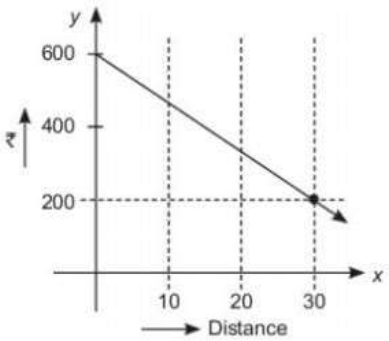
(*i*)



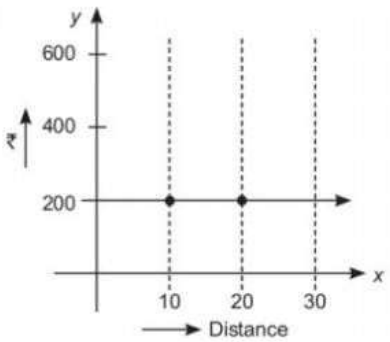
(*ii*)



(*iii*)



(*iv*)



(*d*) For the given linear equation y = 10x + 200, which of the following linear equations in two variables represents intersecting lines.

(*i*) $x - 10y + 200 = 0$ (*ii*) $10x - y + 200 = 0$ (*iii*) $y - 200 = 10x$ (*iv*) $10x - y = -200$

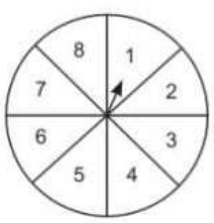
(*e*) For the given linear equation $y = 10x + 200$; which of the following linear equation in two variables represents parallel lines

(*i*) $x - 10y + 200 = 0$ (*ii*) $-x + 10y - 200 = 0$ (*iii*) $10x - y + 200 = 0$ (*iv*) $10x + 10y + 200 = 0$

Case Study based - 4

SPINNING AN ARROW

20. A game of chance consists of spinning an arrow which comes to rest pointing at one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and these are equally likely outcomes.



(*a*) What is the probability that it will point at 8?

(*i*) 8 (*ii*) 1 (*iii*) $\frac{1}{8}$ (*iv*) $\frac{7}{8}$

(*b*) What is the probability that it will point at an odd number?

(*i*) 2 (*ii*) $\frac{3}{4}$ (*iii*) $\frac{1}{4}$ (*iv*) $\frac{1}{2}$

(*c*) What is the probability that it will point at a number greater than 8?

(*i*) 0 (*ii*) 1 (*iii*) sure event (*iv*) $\frac{1}{2}$

(*d*) What is the probability that it will point at a number less than 9?

(*i*) 0 (*ii*) 1 (*iii*) impossible event (*iv*) $\frac{1}{2}$

(*e*) What is the probability that it will point at 0?

(*i*) 1 (*ii*) 0 (*iii*) $\frac{1}{2}$ (*iv*) $\frac{1}{3}$

Part – B

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

21. Find the LCM and HCF of 840 and 144 by applying the Fundamental Theorem of Arithmetic.

OR

Find the prime factors of 15300 using the factor tree.

22. Let $P(x, y)$ be any point on the line joining the points $A(a, 0)$ and $B(0, b)$. Show that $\frac{x}{a}+\frac{y}{b}=1$.

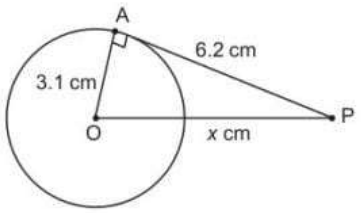
23. If $\tan\theta=\frac{1}{\sqrt{3}}$, then evaluate $\frac{\text{cosec}^2\theta-\sec^2\theta}{\text{cosec}^2\theta+\sec^2\theta}$

OR

If $\sin(A-B)=\frac{1}{2}$ and $\cos(A+B)=\frac{1}{2}$, Find A and B.

24. 5 books and 7 pens together cost ₹ 79, whereas 7 books and 5 pens together cost ₹ 77. Represent this situation in the form of linear equation in two variables. Find the cost of one book and one pen.

25. In the given figure, O is the centre of the circle. The radius of the circle is 3.1 cm and PA is a tangent drawn to the circle from point P. If OP = x cm and AP = 6.2 cm, then find the value of x.



26. AB is a tangent drawn from a point A to a circle with centre O and BOC is a diameter of the circle such that $\angle AOC = 110°$. Find $\angle OAB$.

27. Two sets of Maths and Science books containing 1680 and 1056 books respectively in a library have to be stacked in such a way that all the books are stored subjectwise and the height of each stack is the same. Assuming that the books are of the same thickness, determine the total number of stacks.

28. Find the 11th term from the end in the AP 56, 63, 70, ….., 329.

OR

If the 3rd and the 6th terms of an AP are 7 and 13 respectively, find its 10th term.

29. A solid metallic sphere of radius 8 cm is melted and recast into eight equal solid spherical balls. Determine the diameter of the balls.

30. The lengths of tangents drawn from an external point (point outside the circle) to a circle are equal. Prove it.

OR

ABC is an isosceles triangle, in which AB = AC, circumscribed about a circle. Show that BC is bisected at the point of contact.

31. A quiz was conducted by a group of students as a part of their environment awareness programme. The marks obtained by them is represented by the data shown below. Construct the frequency distribution table for the data represented. Find the modal class of the data.

Marks	Number of students
Less than 10	12
Less than 20	24
Less than 30	37
Less than 40	56
Less than 50	69
Less than 60	76

32. Simplify:

$(1 + \tan\theta + \sec\theta)(1 + \cot\theta - \text{cosec}\,\theta)$

33. The following table shows the distribution of mineral water bottles according to the number of boxes. The boxes contains varying number of mineral water bottles.

Number of mineral water bottles	Number of boxes
50 – 52	20
53 – 55	120
56 – 58	105
59 – 61	125
62 – 64	30

Find the mean number of mineral water bottles kept in a packing box.

34. Two men standing on either side of a cliff 90 m high, observes the angles of elevation of the top of the cliff to be 30° and 60° respectively. Find the distance between the two men.

35. A solid consisting of a right circular cone of height 120 cm and radius 60 cm standing on a hemisphere of radius 60 cm is placed upright in a right circular cylinder full of water such that it touches the bottom. How many litres of water is left in the cylinder, if the radius of the cylinder is 60 cm and its height is 180 cm. (Use $\pi = \frac{22}{7}$)

OR

The cost of fencing a circular field at the rate of ₹ 24 per m is ₹ 5280. The field is to be ploughed at the rate of ₹ 0.50 per m^2. Find the cost of ploughing the field. (Use $\pi = \frac{22}{7}$)

36. Solve the following pair of linear equations graphically.

$x + 3y = 6$ and $2x - 3y = 12$

HINDI

आप विद्यालय की छात्र कल्याण परिषद के सचिव हैं ।विद्यालय में होने वाले वार्षिक उत्सव में भाग लेने के इच्छुक छात्रों के नाम आमंत्रित करने के लिए 25 से 30 शब्दों में सूचना तैयार कीजिए।

विज्ञापन लेखन

आपके पिता अपना पुराना मकान बेचना चाहते हैं। मकान का विवरण देते हुए लगभग 50 शब्दों में एक विज्ञापन तैयार कीजिए।

निम्नलिखित प्रश्नों के उत्तर दीजिए

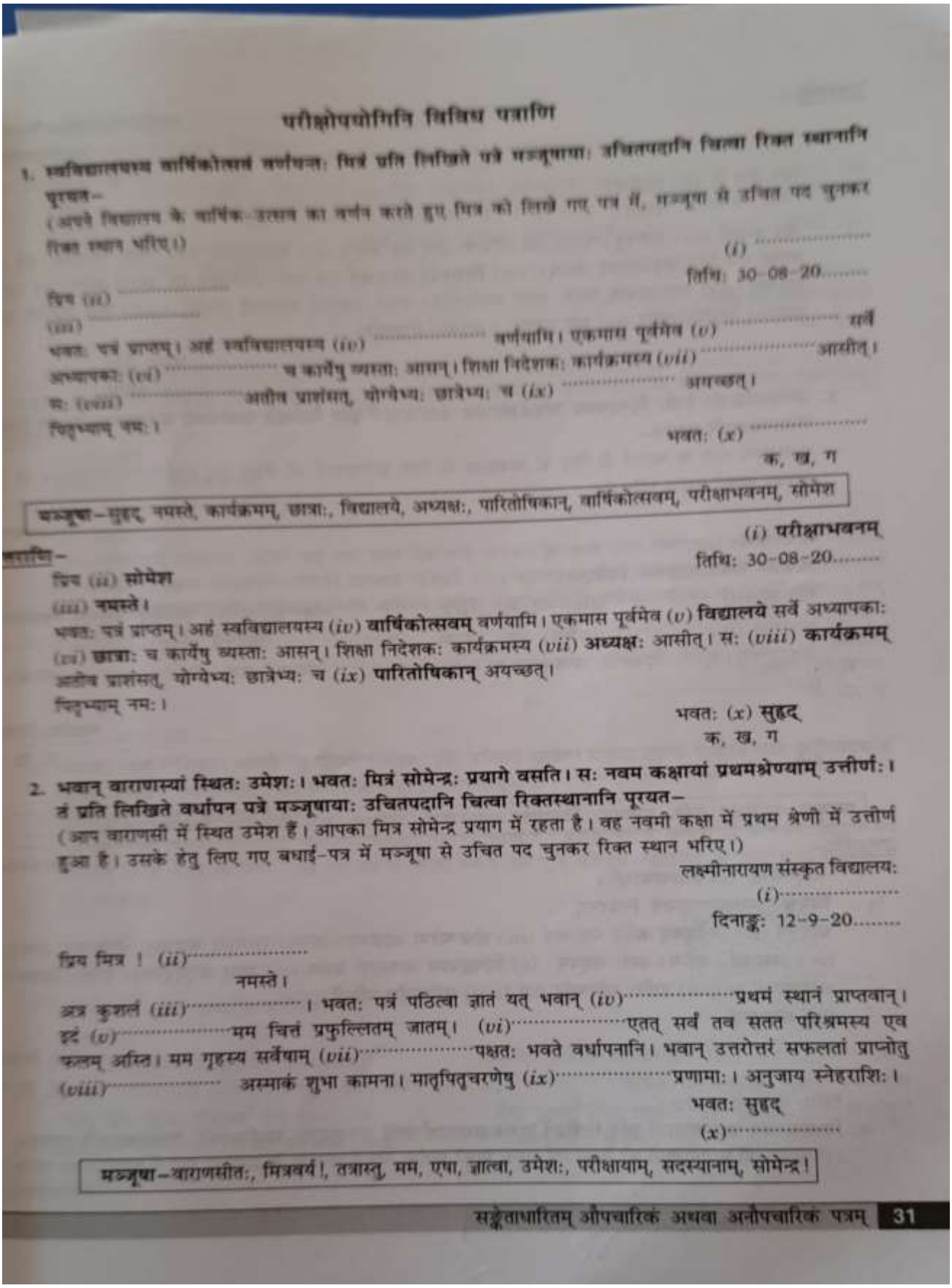
1 छोटे भाई को बड़े भाई की किन बातों से लगता का अनुभव हुआ और क्यों?

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

3 मनुष्यता कविता में उदार व्यक्ति की क्या पहचान बताई गई है और उसके लिए क्या भाव व्यक्त किए गए हैं?

4. समाज में रिश्तो का क्या महत्व है? हरिहर काका पाठ के आधार पर अपने विचार व्यक्त कीजिए।

SANSKRIT



परीक्षोपयोगिनि विविध पत्राणि

1. स्वविद्यालयस्य वार्षिकोत्सवं वर्णयन्तः मित्रं प्रति लिखिते पत्रे मञ्जूषायाः उचितपदानि चित्वा रिक्त स्थानानि पूरयत–
(अपने विद्यालय के वार्षिक-उत्सव का वर्णन करते हुए मित्र को लिखे गए पत्र में, मञ्जूषा से उचित पद चुनकर रिक्त स्थान भरिए।)

(i) .....
तिथिः 30-08-20.....

प्रिय (ii) .....
(iii) .....
भवतः पत्रं प्राप्तम्। अहं स्वविद्यालयस्य (iv) ..... वर्णयामि। एकमास पूर्वमेव (v) ..... सर्वे अध्यापकाः (vi) ..... च कार्येषु व्यस्ताः आसन्। शिक्षा निदेशकः कार्यक्रमस्य (vii) ..... आसीत्। सः (viii) ..... अतीव प्रशंसत्, योग्येभ्यः छात्रेभ्यः च (ix) ..... अयच्छत्।
पितृभ्याम् नमः।

भवतः (x) .....
क, ख, ग

मञ्जूषा–सुहृद्, नमस्ते, कार्यक्रमम्, छात्राः, विद्यालये, अध्यक्षः, पारितोषिकान्, वार्षिकोत्सवम्, परीक्षाभवनम्, सोमेश

उत्तराणि–

(i) परीक्षाभवनम्
तिथिः 30-08-20.....

प्रिय (ii) सोमेश
(iii) नमस्ते।
भवतः पत्रं प्राप्तम्। अहं स्वविद्यालयस्य (iv) वार्षिकोत्सवम् वर्णयामि। एकमास पूर्वमेव (v) विद्यालये सर्वे अध्यापकाः (vi) छात्राः च कार्येषु व्यस्ताः आसन्। शिक्षा निदेशकः कार्यक्रमस्य (vii) अध्यक्षः आसीत्। सः (viii) कार्यक्रमम् अतीव प्रशंसत्, योग्येभ्यः छात्रेभ्यः च (ix) पारितोषिकान् अयच्छत्।
पितृभ्याम् नमः।

भवतः (x) सुहृद्
क, ख, ग

2. भवान् वाराणस्यां स्थितः उमेशः। भवतः मित्रं सोमेन्द्रः प्रयागे वसति। सः नवम कक्षायां प्रथमश्रेण्याम् उत्तीर्णः। तं प्रति लिखिते वर्धापन पत्रे मञ्जूषायाः उचितपदानि चित्वा रिक्तस्थानानि पूरयत–
(आप वाराणसी में स्थित उमेश हैं। आपका मित्र सोमेन्द्र प्रयाग में रहता है। वह नवमी कक्षा में प्रथम श्रेणी में उत्तीर्ण हुआ है। उसके हेतु लिए गए बधाई-पत्र में मञ्जूषा से उचित पद चुनकर रिक्त स्थान भरिए।)

लक्ष्मीनारायण संस्कृत विद्यालयः
(i).....
दिनाङ्कः 12-9-20.....

प्रिय मित्र ! (ii).....
नमस्ते।
अत्र कुशलं (iii)..... । भवतः पत्रं पठित्वा ज्ञातं यत् भवान् (iv).....प्रथमं स्थानं प्राप्तवान्। इदं (v).....मम चित्तं प्रफुल्लितम् जातम्। (vi).....एतत् सर्वं तव सतत परिश्रमस्य एव फलम् अस्ति। मम गृहस्य सर्वेषाम् (vii).....पक्षतः भवते वर्धापनानि। भवान् उत्तरोत्तरं सफलतां प्राप्नोतु (viii)..... अस्माकं शुभा कामना। मातृपितृचरणेषु (ix).....प्रणामाः। अनुजाय स्नेहराशिः।

भवतः सुहृद्
(x).....

मञ्जूषा–वाराणसीतः, मित्रवर्य!, तत्रास्तु, मम, एषा, ज्ञात्वा, उमेशः, परीक्षायाम्, सदस्यानाम्, सोमेन्द्र!

VIDEO LINK: https://www.youtube.com/watch?v=xO6_qz9_LFw&authuser=0