

HOLIDAY HOMEWORK  
CLASS -IX

ENGLISH

1. Complete the following stories (150 words)
  - a) A sailor took his pet monkey to sea trip - terrible storm over ship- a dolphin saved the monkey- took monkey on an island- monkey said he lie- left monkey alone with the island
  - b) I had been over two hours waiting for the train , Ruhi was getting restless, Suddenly she.....
  - c) Last Sunday I was watching TV, Suddenly I heard people shouting outside.....
2. Diary entry (5 days) with important news of that day
3. Make a chart of tenses with one example
4. Revise the syllabus for MOCK Exams.

MATHS

CLASS -IX

MATHEMATICS ,

STANDARD WORKSHEET

CHAPTER: SURFACE AREA

Choose the correct option.

1. Find the curved surface area of the cylinder whose circumference of the base is 22 cm and height is 3m:
  - (a) 44cm<sup>2</sup>
  - (b) 66 cm<sup>2</sup>
  - (c) 77cm<sup>2</sup>
  - (d) 22cm<sup>2</sup>
2. What will be the diameter of a sphere whose surface area is 55.44m<sup>2</sup>?
  - (a) 4.6 m
  - (b) 4.2m
  - (c) 3.4m
  - (d) 2.4m
3. The surface area of a cuboid is 1372 square centimetre. If its dimensions are in the ratio 4:2:1, then the length is:
  - (a) 7 cm
  - (b) 14 cm
  - (c) 21 cm
  - (d) 28cm
4. Total surface area of a cone whose radius as  $p/2$  and slant height as  $2l$  is:
  - (a)  $2(+)$
  - (b)  $p(l+$
  - (c)  $(l+p)$

(d)  $2\pi rl$

5. Two cubes each of edge 12 cm are joined. The surface area of new cuboid is

(a) 140 cm<sup>2</sup>

(b) 1440 cm<sup>2</sup>

(c) 144 cm<sup>2</sup>

(d) 72 cm<sup>2</sup>

Fill in The Blanks

6. The difference between the total surface area and lateral surface area of a cube of side 4cm is -----.

7. If the slant height of a cone 12cm and radius of the base is 14 cm, then the total surface area is -----.

8. The curved surface area of a cylinder of height 14 cm is 88 cm<sup>2</sup>. The diameter of its circular bases:-----

9. A solid right circular cone is cut into two parts at the middle of its height by a plane parallel to its base. The ratio of the volume of the smaller cone to the whole cone is:-----

10. The curved surface area of a sphere of radius 7 cm is:-----

Answer The Followings:

11. If the lateral surface of a cylinder is 94.2 sq.cm and its height is 5 cm, then find radius of its base.

12. The surface area of a cuboid is 1372 sq. cm. If its dimensions are in the ratio of 4 : 2 : 1, then find its length.

13. The radius of a spherical balloon increases from 7 cm to 14 cm when air is being pumped into it. Then find the ratio of surface area of the balloon in the two cases.

14. Find the total surface area of a hemisphere of radius unit.

15. The slant height of a cone is 26 cm and base diameter is 20 cm. Find its height  
Short answer Type –I Questions

16. The areas of three adjacent faces of a cuboid are x, y and z. Find the total surface area of the cuboid.

17. If each side of a cube is increased by 10%. What is the percentage increase in surface area of the cube ?

18. The radius and height of a cone are in the ratio 4:3. The area of the base is 154 cm<sup>2</sup>. Find the curved surface area.

19. There are two cones, the curved surface area of one cone is twice that of the other. The slant height of later is twice that of the former. Find the ratio of their radii.

20. In a hot water heating system there is a cylindrical pipe of length 28 m and diameter 5 cm. Find the total radiating surface area in the system.

### Short answer Type –II Questions

21 The length of a hall is 20 m and breadth is 16 m. The sum of areas of the floor and the top is equal to the sum of the areas of the four walls. Find the height of the wall.

22 The ratio of total surface area and curved surface area of a cylinder is 2:1, if the total surface area is 616 cm<sup>2</sup>, find the radius and height of the cylinder.

23 A well of 14m deep is having 2m in radius. Find the cost of cementing the inner curved surface area at the rate of Rs. 2 per m<sup>2</sup>.

24 A right circular cylinder just encloses a sphere of radius 10 cm. Find the surface area of cylinder.

25 A cylinder, a cone and a sphere are of the same radius and same height. Find the ratio of their curved surface.

### Long answer Type Questions

26. The difference between outside and inside surface of a cylindrical metallic pipe 14m long is 44 cm<sup>2</sup>. If the sum of the diameters of the inner and outer surface of the cylinder is 9 cm, find the inner and outer radii of the cylinder

27. A class room is 7m long, 6.5 m wide and 4m high. It has one door of 3m × 1.4 m and three windows of measure 2m × 1m. The internal walls are to be colour washed. The contractor charges Rs. 5.52 per square meter. Find the cost of colour washing.

28. The diameter of a roller is 250 cm and length is 140 cm. If it takes 500 complete revolutions to level a play-ground, determine the cost of levelling at the rate of 50 paise per square meter.

29 The internal and external diameters of hollow hemispherical vessel are 24 cm and 25 cm respectively. If the cost of painting 1cm<sup>2</sup> surface area is Rs. 1.5, find the total cost of painting the vessel all over.

30 The surface area of a sphere of radius 5 cm is five times the area of the curved surface area of a cone of radius 4cm. Find the height of the cone.

### PHYSICS

roll number 1-6

make model of human ear with the help of clay.

roll number 7-12 make ppt on work and types of energy

roll number 13-18

model on reflection of sound

roll number 19-24

chart of fig 12.18 page number 172

## COMPUTER

- 1) What are the main threats to the computer? Make a list.
  - 2) What are computer virus and its history? Write all types of computer virus? With their Pictures.
  - 3) What are Cyber Crime and Computer Ethics? With Images
  - 4) What are Anti-Virus software and examples?
  - 5) What are the Firewall and its use?
  - 6) What are the Hackers and Crackers?
  - 7) What are the Cyber law and importance?
  - 8) What are the Backup and Restore? With Images.
- 1 Word Project, 1 Excel Project and 2 PPT in a file

## SOCIAL SCIENCE

- 1 Prepare a scrapbook/PPT on different historical buildings (atleast 15) from history text book and write at least ten sentences about it.
- 2 Learn the back exercise of the topics covered after half yearly examination
- 3 Prepare at least 15 mcq's from the topics covered after half yearly examination.
- 4 Fill the following places in the political map of India  
A Five rivers of India  
B Five mountain ranges  
C All the states of India  
D Three National Parks ,  
E Note down the temperature of 15 days during winter break

## CLASS-IX

### SUBJECT- SCIENCE HOLIDAY HOMEWORK

I. Do the given worksheets in your notebook.

## PHYSICS

### WORKSHEET NO. 1

A. Fill in the blanks

- 1 Kilo Watt hour of energy is equal to Joule
- Power is the rate of doing . And its unit is
- The water stored in the reservoir of the tank possessed energy
- The total energy of the swinging pendulum remains at all the points
- When the body falls freely towards earth, potential energy of the body while kinetic energy of the body . The total remains at all the point during the motion

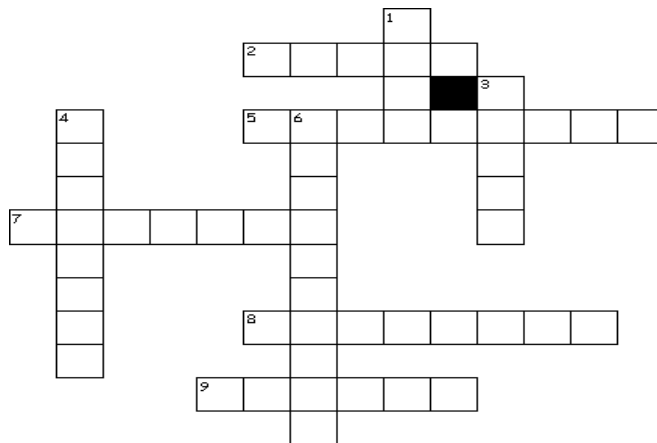
B. Crossword Puzzle

Across

- The scientist with whom unit of power is named
- The kinetic energy of the body depends on mass and this quantity
- The energy possessed by the car moving on the road
- The Bigger unit of power
- Work and power are these quantities

Down

- The work done by the earth on the satellite moving in circular path
- Solar water heater converts this energy into heat energy
- The gravitation potential energy is present because of this
- In hydroelectric power house, the potential energy of the water is finally transformed to this energy.



C. Table type question

A body of mass 10 kg falls from the height 10 m towards the earth. Given  $g=10\text{m/s}^2$

Height from earth(m) 10m ? ? 2m

Potential energy(J) ? ? 500J ?

Kinetic energy(J) ? 1000J ? ?

Mechanical energy (J) ? ? ? ?

D. Table type question

A force 10 N act on the body and body is displaced by 10 m. The angle between force and displacement are given below. Calculate the work done

Angle  $30^\circ$   $45^\circ$   $60^\circ$   $90^\circ$

Work done ? ? ? ?

E. ANSWER THE FOLLOWING QUESTIONS:

1. List two essential conditions for work to be done.
2. Define energy.
3. Compare the kinetic energies of two objects of masses 10kg and 50kg respectively but having same momentum.
4. What is a work done on a body moving in a circular path?
5. Identify the state the type of energy transformation in the following cases:
  - a. Riding a bicycle
  - b. Burning of cracker
6. What is work done by the force of gravity on a satellite moving round the earth? Justify the answer?
7. If the mass of the body is doubled and velocity is made halved, the kinetic energy will become?
8. Define 1 Watt of power. A lamp consumes 1000J of electrical energy in 10s. Calculate its power.
9. Name the two types of mechanical energy. Give two examples when an object possesses both types of energies.
10. Calculate the amount of work required to stop a car of 1000kg moving with a speed of 72km/h?

F. HOT QUESTIONS

1. State the kind of energy transformation that takes place in the following devices:
  - a. Solar battery
  - b. Electric motor
  - c. Microphone
  - d. Thermal power plant
  - e. Hydroelectric power plant
2. Can a body have energy without momentum? Explain?
3. Can a body have momentum without having energy? Explain?
4. Calculate the kinetic energy of a car of mass 750kg moving with a velocity of 54km/hr. Find the new kinetic energy of a car if passenger of mass 50kg sits in the car?
5. An electric bulb of 100 W is used for 8 h per day. Calculate the energy consumed in one day by the bulb?
6. Find the energy possessed by an object of mass 10 kg when it is at a height of 2 m above the ground. Given,  $g = 10 \text{ m/s}^2$
7. An engineer is asked to design a playground slide such that the speed a child reaches at the bottom does not exceed 4.0 m/s. Determine the maximum height that the slide can be.? Given,  $g = 9.8 \text{ m/s}^2$ .
8. A rocket is moving up with a velocity  $v$ . If the velocity of this rocket is suddenly tripled, what will be the ratio of two kinetic energies?
9. A force of 10 N displaces a body by a distance of 3 m at an angle  $60^\circ$  to its own direction. Find the amount of work done.

G. Make a model on the following topics accordingly.

- i. Roll number 1-6 (model of human ear with the help of clay)
- ii. Roll number 7-12 (make ppt on work and types of energy)
- iii. Roll number 13-18 (model on reflection of sound)
- iv. Roll number 19-24 (chart of fig 12.18 page number 172)

CHEMISTRY  
WORKSHEET NO. 2  
CH-4 STRUCTURE OF THE ATOM

Q1. Where are electrons found in the atom?

Q2. Why the nucleus of an atom is positively charged?

Q3. Why did Rutherford select a gold foil in his  $\alpha$ -ray scattering experiment?

Q4. If  $\text{Mg}^{2+}$  has 12 protons and 12 neutrons, what is its atomic number and mass number?

Q5. Define valency and Give an example of monovalent element.

Q6. An atom of an element has 7 electrons in its L shell, name the element and write its atomic number?

Q7. Name the particles which determine the mass of an atom.

Q8. What observations in a scattering experiment led Rutherford to make the following observations:

(i) Most of the space in an atom is empty.

(ii) Nucleus is positively charged.

(iii) Whole mass of an atom is concentrated in its centre.

Q9. State the characteristics of nucleus of an atom.

Q10. The atomic number of chlorine is 17 and mass number is 35.

(i) What would be the electronic configuration of a negatively charged chloride ion,  $\text{Cl}^-$  ?

(ii) What would be the atomic number and mass number of  $\text{Cl}^-$  ?

Q11. Which of the two would be chemically more reactive element, X of atomic number 18 or element Z of atomic number 16 and why?

Q12. What are isotopes? Why do isotopes show similar chemical properties but they differ in physical properties?

Q13. Write isotopes of uranium and its uses.

Q14. Write one pair of Isobars. Why the chemical properties of isobars are not similar?

Q15. Write three points of difference between isotopes and isobars.

Q16. (i) What is the similarity in the electronic structure of the following set of atoms?

Lithium, sodium and potassium.

(ii) Which of the above element is most reactive and why?

Q17. Complete the following table.

Element	At. No.	Mass No.	Protons	Neutrons	Electrons
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A 11 - - 12 -

B - 35 - - 17

C - - 9 10 -

D - 20 - - 10

Q18. Give reason for the following:

(i) An atom is electrically neutral

(ii) Noble gases show least reactivity

(iii) Nucleus of an atom is heavy and positively charged.

(iv) Ions are more stable than atoms

Q19. An element has an atomic number 12 and mass number 26. Draw a diagram showing the distribution of electrons in the orbits and the nuclear composition of the neutral atom.

If this element X combines with another element Y whose electronic configuration is 2, 8, 7, what will be the formula of the compound thus formed?

Q20. Name the Scientists who have contributed the following towards the understanding of the atomic structure.

- (i) Discovery of electrons
- (ii) Canal rays
- (iii) Concept of nucleus
- (iv) Stationary orbits
- (v) Indivisibility of atoms
- (vi) Neutron

II. Make a model on the following topics accordingly:

- A. Thomson's model of an atom (Roll Number 1 to 6)
- B. Rutherford's model of an atom (Roll Number 7 to 12)
- C. Bohr's model of an atom (Roll Number 13 to 18)
- D. Composition of atoms of the first eighteen elements with electron distribution in various shells (Roll Number 19 to 24)

III. Complete the practical file.

#### BIOLOGY

IV. Do the given attached worksheets in your register.

V. Make a model on the following topics accordingly.

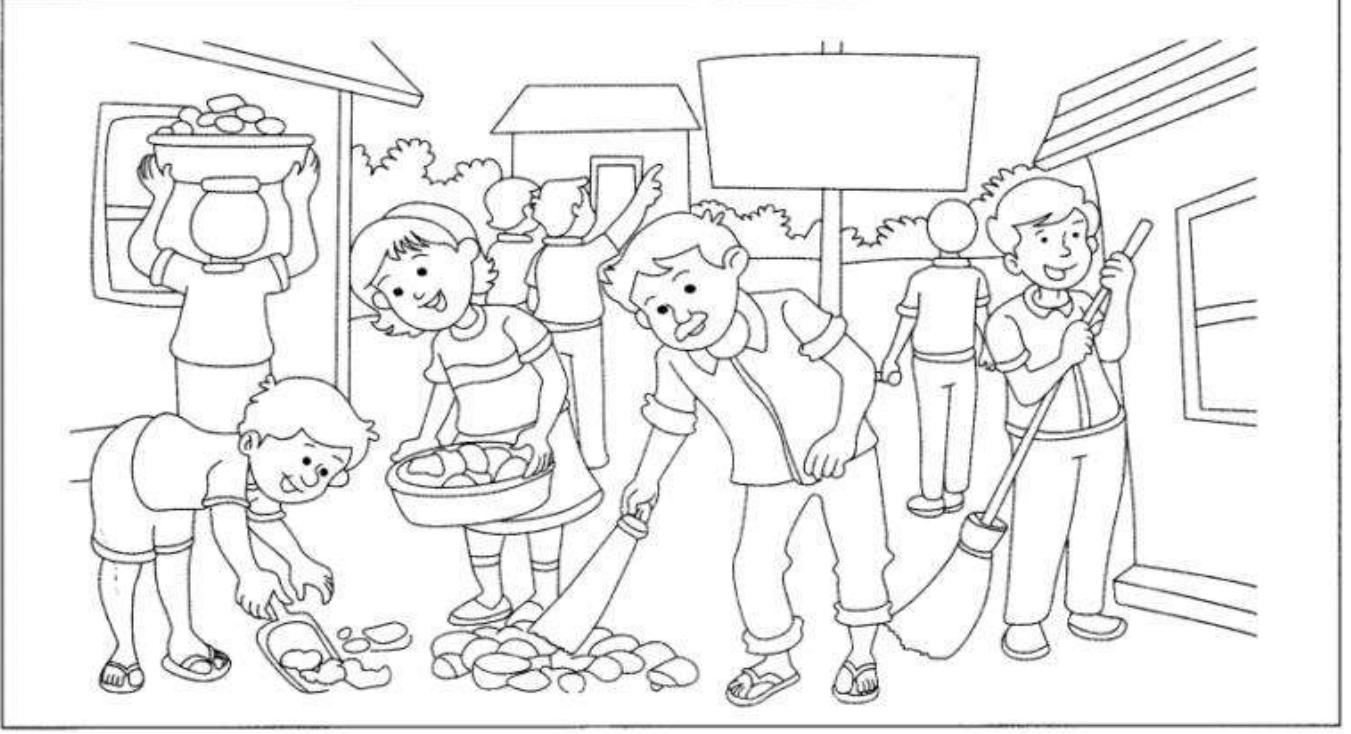
- A. DNA (Roll Number 1 to 6)
- B. Nitrogen Cycle (Roll Number 7 to 12)
- C. Oxygen Cycle (Roll Number 13 to 18)
- D. Carbon Cycle (Roll Number 19 to 24)



शीतकालीन अवकाश गृहकार्य  
कक्षा IX

1. चित्र वर्णन

चित्र को ध्यानपूर्वक देखकर इसका वर्णन 50 से 60 शब्दों में कीजिए।



2. स्वर संधि ( बहुविकल्पीय प्रश्न )

1. वर्णों के मेल से होनेवाले विकार को कहते हैं

- (a) संधि
- (b) समास
- (c) उपसर्ग
- (d) प्रत्यय

2. कपीश में प्रयुक्त संधि का नाम है –

- (a) वृद्धि संधि
- (b) दीर्घ संधि
- (c) यण संधि
- (d) विसर्ग संधि

3. इत्यादि का सही संधि-विच्छेद है

- (a) इत् + यादि
- (b) इति + यादि
- (c) इत् + आदि
- (d) इति + आदि

4. निरर्थक का सही संधि विच्छेद है।

- (a) निर + अर्थक
- (b) निरः + अर्थक
- (c) निः + अर्थक
- (d) निरा+अर्थक

5. धरेश का सही संधि विच्छेद है –

- (a) धराः + अश
- (b) धर + ईश
- (c) धरा + ईश
- (d) धरा + इश

6. निराशा का सही संधि-विच्छेद है –

- (a) निरा + आशा
- (b) निर् + आशा
- (c) निः + आशा
- (d) निरः + आशा

7. आशीर्वाद का सही संधि-विच्छेद है –

- (a) आशीर + वाद
- (b) आशीः + वाद
- (c) आशीं + वाद
- (d) इनमें से कोई नहीं

8. सप्तर्षि का सही संधि-विच्छेद है –

- (a) सप्तर + ऋषि
- (b) सप्तः + ऋषि
- (c) सप्त + ऋषि
- (d) इनमें से कोई नहीं

9. प्रत्युपकार का सही संधि विच्छेद है-

- (a) प्रत् + उपकार

- (b) प्रती + उपकार
- (c) प्रति + उपकार
- (d) प्रति + अपकार

10. गायक का सही संधि-विच्छेद है-

- (a) गा + अक
- (b) गै+ अक
- (c) गे + यक
- (d) गै + यक

11. पवित्र का सही संधि-विच्छेद है –

- (a) पव् + इत्र
- (b) पवः + इत्र
- (c) पी + इत्र
- (d) पो + इत्र

12. मनोयोग का सही संधि-विच्छेद है –

- (a) मनोः + योग
- (b) मनः + योग
- (c) मनः + आयोग
- (d) इनमें से कोई नहीं

13. गिरीश का सही संधि-विच्छेद है-

- (a) गिरि + इश
- (b) गिरि + ईश
- (क) गिर् + इश
- (d) गिर + ईश

14. घुड़दौड़ का सही संधि-विच्छेद है –

- (a) घुड़ + दौड़
- (b) घोड़ + दौड़
- (c) घोड़ा + दौड़
- (d) इनमें से कोई नहीं

15. महोदय का सही संधि-विच्छेद है –

- (a) महो + दय

- (b) महा + ओदय
- (c) महान + उदय
- (d) महा + उदय

### 3. पत्र लेखन

अपने नए विद्यालय के परिवेश और शैक्षिक-शैक्षणिक गतिविधियाँ का उल्लेख करते हुए चचेरे भाई को पत्र लिखिए।

#### अथवा

अपने मित्र को पत्र लिखें जिसमें हिंदी का महत्त्व और लाभ बताए गए हों।

### 4. निम्नलिखित में से किसी एक विषय पर अनुच्छेद लिखिए-

**इंटरनेट का जीवन में उपयोग** विषय पर दिए गए संकेत बिंदुओं के आधार पर लगभग 80 से 100 शब्दों में अनुच्छेद लिखिए।

- इंटरनेट क्या है?
- लाभ-समय की बचत, शिक्षा में सहायक
- उपयोग के सुझाव

#### अथवा

**कंप्यूटर हमारा मित्र** विषय पर दिए गए संकेत बिंदुओं के आधार पर अनुच्छेद लिखिए।

- क्या है
- विद्यार्थियों के लिए उपयोग
- सुझाव

#### अथवा

**भारत में बाल मज़दूरी की समस्या** विषय पर दिए गए संकेत बिंदुओं के आधार पर अनुच्छेद लिखिए।

- बाल मज़दूरी का अर्थ
- बाल मज़दूरी के कारण
- बाल मज़दूरी को दूर करने के उपाय

### 5. अनुच्छेद को ध्यानपूर्वक पढ़कर निम्नलिखित प्रश्नों के उत्तर दीजिये:

भारत में हरित क्रांति का मुख्य उद्देश्य देश को खाद्यान्न मामले में आत्मनिर्भर बनाना था, लेकिन इस बात की आशंका किसी को नहीं थी कि रासायनिक उर्वरकों और कीटनाशकों का अंधाधुंध इस्तेमाल न सिर्फ खेतों में, बल्कि खेतों से बाहर मंडियों तक में होने लगेगा। विशेषज्ञों के मुताबिक रासायनिक उर्वरकों और कीटनाशकों का प्रयोग खाद्यान्न की गुणवत्ता के लिए सही नहीं है, लेकिन जिस रफ़्तार से देश की आबादी बढ़ रही है, उसके मद्देनज़र फ़सलों की अधिक पैदावार ज़रूरी थी। समस्या सिर्फ रासायनिक खादों के प्रयोग की ही नहीं है। देश के ज़्यादातर किसान परंपरागत कृषि से दूर होते जा रहे हैं। दो दशक पहले तक हर किसान के यहाँ गाय, बैल और भैंस खूंटों से बँधे मिलते थे। अब इन मवेशियों की जगह ट्रैक्टर-ट्राली ने ले ली है।

परिणामस्वरूप गोबर और घूरे की राख से बनी कंपोस्ट खाद खेतों में गिरनी बंद हो गई। पहले चैत-बैसाख में

गेहूँ की फ़सल कटने के बाद किसान अपने खेतों में गोबर, राख और पत्तों से बनी जैविक खाद डालते थे। इससे न सिर्फ़ खेतों की उर्वरा-शक्ति बरकरार रहती थी, बल्कि इससे किसानों को आर्थिक लाभ के अलावा बेहतर गुणवत्ता वाली फसल मिलती थी।

i. हमारे देश में हरित क्रांति का उद्देश्य क्या था?

- क) देश को खाद्यान्न के क्षेत्र में परतंत्र बनाना
- ख) देश को खाद्यान्न के क्षेत्र में आत्मनिर्भर बनाना
- ग) देश को खाद्यान्न के क्षेत्र में उन्नत बनाना
- घ) देश को खाद्यान्न के क्षेत्र में आत्मनिर्भर न बनाना

ii. खाद्यान्नों की गुणवत्ता बनाए रखने के लिए किनका प्रयोग सही नहीं था?

- क) रासायनिक उर्वरकों और कीटनाशकों का
- ख) रासायनिक उर्वरकों का
- ग) कीटनाशकों का
- घ) इनमें से कोई नहीं

iii. विशेषज्ञ हरित क्रांति की सफलता के लिए क्या आवश्यक मानने लगे?

- क) प्राकृतिक खाद का प्रयोग
- ख) कृत्रिम खाद का प्रयोग
- ग) जैविक खाद का प्रयोग
- घ) रासायनिक खाद का प्रयोग

iv. रासायनिक उर्वरक और कीटनाशक का प्रयोग क्यों आवश्यक हो गया?

- क) हरित क्रांति के कारण
- ख) घटती आबादी के कारण
- ग) बढ़ती आबादी के कारण
- घ) फसल के कारण

v. गोबर की कम्पोस्ट खाद अब खेतों में नहीं पड़ती है क्योंकि-

- i. किसान परम्परागत कृषि से दूर होते जा रहे हैं
- ii. मवेशियों का स्थान ट्रैक्टर-ट्रोल्ली ने ले लिया है
- iii. कीटनाशकों का अधिकाधिक प्रयोग होने लगा है
- iv. उर्वरा शक्ति बनी रहने के कारण
  - क) कथन i, ii व iii सही हैं
  - ख) कथन i, ii, iii व iv सही हैं
  - ग) कथन ii सही है
  - घ) कथन i, ii व iv सही हैं

