

QUESTION PAPER 1

[BOARD'S SAMPLE QUESTION PAPER FOR ANNUAL EXAM - WITH MODEL ANSWERS]

Time : 3 Hours]

[Total Marks : 80

Instructions

- (1) All sections are compulsory. The number on the right side represent the total marks of that section.
- (2) Draw the neat, proper and labelled diagram wherever necessary.
- (3) Answer the questions in serial order of the section.

Section A

Answer the following Q. nos. 1 to 24 as directed : [1 mark each] 24

- Choose the correct alternative from those alternatives given below for the following statements :

- What colour does turmeric give with a basic substance?
A. Yellow B. Brownish yellow
C. Reddish brown D. Black
 - Which of the following compounds contains -OH functional group?
A. Butanone B. Butanol
C. Butanoic acid D. Butanal
 - In which part of digestive tract is food completely digested?
A. Stomach B. Buccal cavity
C. Large intestine D. Small intestine
 - Write the unit of electric current.
A. coulomb B. ampere
C. volt D. ohm
 - Which of the following would you choose to read small letters found in the dictionary?
A. Concave lens B. Convex lens
C. Concave mirror D. Convex mirror
 - The spectacles of which lens would a person with presbyopia defect use?
A. Bifocal lens B. Cylindrical lens
C. Convex lens D. Concave lens
- Fill in the blanks so as to make each of the following statements true :
- is the first member of alkane homologous series.
(Ethane, Methane, Propane)

- The value of electric current in the circuit during short circuit.
(decreases greatly, changes constantly, increases greatly)

- Diaphragm is an organ of system.
(digestive, respiratory, excretion)

- Traits of parents are inherited from and transmitted to their progeny.
(cytoplasm, genes, ribosome)

- A spherical mirror and a thin spherical lens are each of focal length - 15 cm. The mirror and lens would be
(both concave, both convex, concave mirror and convex lens)

- metal is in liquid form.
(Mercury, Calcium, Sodium)

- State whether the following statements are true or false :

- Metals like lead, copper, silver do not react with metals at all.

- Reproduction in *Leishmania* takes place by binary fission.

- The pupil does not regulate the amount of light entering the eye.

- There is acetic acid in sour curd.

- Answer the following questions as directed :

- By which hormone is the sugar in the blood regulated?

18. In Mendel's experiment, the structure of the offspring during the second generation are TT, Tt, tt. Separate the dominant trait and recessive trait from them.
19. Find and write the mis-matched pair from the following :
- (A) Retina – Light-sensitive screen
 (B) Iris – Crystalline lens
 (C) Pupil – A pore like structure formed by iris
20. Write the mathematical formula of Ohm's law.

- Match the following pairs correctly

Column 'A'	Column 'B'
21. Auxin	(a) Promotes cell division.
22. Abscisic acid	(b) Helps in stem growth.
	(c) Retards the growth of the plant.

Column 'A'	Column 'B'
23. Second trophic layer	(a) Secondary consumers
24. Third trophic layer	(b) Primary consumers
	(c) Producers

Section B

Answer any 9 (nine) questions from the Q. nos. 25 to 37 within the limit of 40 to 50 words as directed: 18 [2 marks each]

25. Why is nitrogen gas filled with oil and fat containing food?

30. Give scientific reason: "The danger signal lights are red in colour."
31. A current of 0.5 A is drawn by the filament of an electric bulb for 10 minutes. Find the amount of electricity used.

ANSWERS

Section A

1. C. Reddish brown
2. B. Butanol
3. D. Small intestine
4. B. ampere
5. B. Convex lens
6. A. Bifocal lens
7. **Methane** is the first member of alkane homologous series.
8. The value of electric current in the circuit **increases greatly** during short circuit.
9. Diaphragm is an organ of **respiratory system**.
10. Traits of parents are inherited from **genes** and transmitted to their progeny.
11. A spherical mirror and a thin spherical lens are each of focal length - 15 cm. The mirror and lens would be **both concave**.
12. **Mercury metal** is in liquid form.
13. True 14. True 15. False 16. False
17. Insulin
18. Dominant trait : TT, Tt and Recessive trait : tt
19. (B) Iris - Crystalline lens
20. $R = \frac{V}{I}$
21. Auxin - Helps in stem growth.
22. Abscisic acid - Retards the growth of the plant.
23. Second trophic layer - Primary consumers
24. Third trophic layer - Secondary consumers

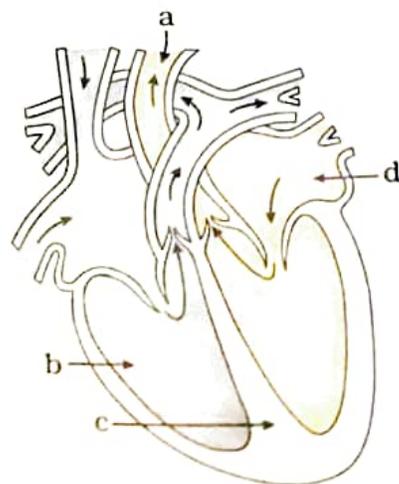
Section B

Answer any 9 (nine) questions from the Q. nos. 25 to 37 within the limit of 40 to 50 words as directed: 18 [2 marks each]

25. Why is nitrogen gas filled with oil and fat containing food?
26. State any four physical properties of non-metals.
27. Draw a labelled diagram of human excretory system.
28. Explain vegetative propagation in Bryophyllum.
29. During a program, the students were given guidance by a doctor regarding sex education. He said that as sexual intercourse involves physical contact, one can sometimes be infected with gonorrhoea, AIDS, syphilis and warts. In this program, it was explained that population control is done by both mechanical and surgical methods. In which use of condom, loop, copper-T, tubectomy, vasectomy was explained. Answer the following questions from the above discussion:

- (a) Classify sexually transmitted diseases into bacterial and viral diseases.
- (b) Name any two equipments for mechanical methods of population control.

30. Give scientific reason: "The danger signal lights are red in colour."
31. A current of 0.5 A is drawn by a filament of an electric bulb for 10 minutes. Find the amount of electric charge that flows through the circuit.
32. Give difference: Series connection and Parallel connection.
33. Write Fleming's left hand rule. State names of any two electrical devices working on this principle.
34. Differentiate between: Biodegradable substances and Non-biodegradable substances
35. What is an ecosystem? State its components.
36. Find the names of the given parts in the following figure:
(Left atrium, right ventricle, aorta, septum)



37. Give information about fuse in short

44 /
221 44 5415
Question
Sub-que. No.

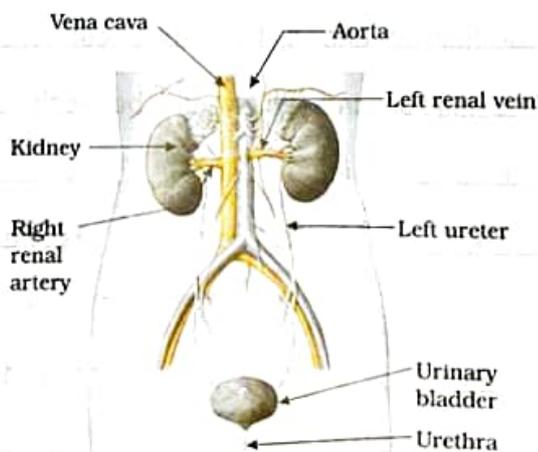
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Q. _____

Section B

25. Foods containing oil and fat left for a long time become rancid and their taste change by reacting with oxygen in the air. Such edible foods are harmful to health. Hence, inert gas like nitrogen is filled as an anti-oxidant to prevent oxidation and hence spoilage of food.
26. The physical properties of non-metals are as follows :
- Non-metallic elements occur in solid, liquid or gaseous state.
 - They are bad conductor of heat and electricity.
 - They do not have the quality of ductility and malleability.
 - Their melting point and boiling point are relatively low.
 - They does not produce sonorous sound.

27.



28. In Bryophyllum leaf, buds are produced in the notch along the leaf margin.
- Such buds fall on the soil, germinate and develop into new plants.



Q. —

29. (a) Bacterial diseases : syphilis, gonorrhoea
Viral diseases : warts, AIDs
(b) Equipments for mechanical methods : (1) Copper-T (2) Condom

30. Since red light has a longer wavelength, it scatters less than other colours in the presence of fog or smoke.
→ So red colour can be seen even from very far distance.

31. $I = 0.5 \text{ A}$, $Q = ?$, $t = 10 \text{ minutes} = 10 \times 60 = 600 \text{ s}$

Now, $Q = I \times t = 0.5 \times 600 = 300 \text{ C}$

$\therefore Q = 3 \times 10^2 \text{ C}$

So its electric charge (Q) = 3×10^2 coulomb.

32. Series Connection	Parallel Connection
1. In this type of connection of resistors, the current must have only one direction of flow.	1. In this type of connection of resistors, the current has more than one way to flow.
2. The current flowing is of equal value.	2. The voltage between the two ends of resistors is the same.
3. This type of connection is used to increase the resistance of the circuit.	3. This type of connection is used to decrease (reduce) the resistance of the circuit.

Q. _____

33. **Fleming's left hand rule** : Stretch the thumb, forefinger and middle finger of your left hand such that they are mutually perpendicular to each other. If the first finger (forefinger) points in the direction of magnetic field and second finger (middle finger) points in the direction of current, then the thumb will point in the direction of motion or the force acting on the conductor.

Two Devices working on Fleming's left hand rule : Electric motor, Electric generator.

34.

Biodegradable substances	Non-biodegradable substances
1. The substances which can be broken down by biological processes are called biodegradable substances.	1. The substances which cannot be broken down by biological processes are called non-biodegradable substances.
2. Disposal of these can be done by the activity of decomposers.	2. Disposal of these cannot be done by the activity of decomposers.
3. Vegetables, fruits, peels, scales, dead bodies are biodegradable substances.	3. Glass, plastic, polythene, chemical pesticides, etc. are non-biodegradable substances.

35. The system formed by the interaction between all organisms and the physical environment associated with them is called an ecosystem.

→ Ecosystem has two components :

(1) Abiotic components : Temperature, rain, moisture (humidity), wind, soil, light

(2) Biotic components : All living beings



Q. No. _____
Question _____
Sub-que. No. _____

Q. _____
36. a. Aorta b. Right ventricle c. Septum d. Left atrium

37. **Fuse :** An electric fuse is an important component of all domestic circuits.

→ It is used to avoid incidents such as electric shock, fire, damage to electrical appliances due to (a) short-circuit (b) overloading in a circuit.

→ A fuse is a most important safety device. It consists of a short, thin tin-plated copper wire having low melting point.

→ It melts and breaks the circuit if current exceeds a safety limit and the circuit becomes open.

Section: A

* MCCP

1] The pH values of aqueous solutions A, B, C and D are 1.9, 2.5, 2.1 and 3.0 respectively, then what will be the correct order of their acidic strength?

→ D < B < C < A (C)

2] Which of the following reaction takes place between alcohol and carboxylic acid in the presence of concentrated H_2SO_4 ?

→ Esterification. (D)

3] Which of the following is mis-matched pair?

- (A) Blood plasma - Conduction of CO_2 .
- (B) Red blood corpuscle - Conduction of O_2 .
- (C) White blood corpuscle - To fight against pathogens.
- (D) Blood platelets - Conduction of Nitrogenous excretory waste.

→ Blood platelets - (D).

4] $1 \mu A =$ ~~100~~ mA.

→ 10^{-3} (B)

5] The absolute refractive index of any medium is _____

→ > 1 (A)

6] What would be the upper and lower lens of the spectacles respectively of a person who is not able to see the near and far objects clearly (both types of defect)?

→ Concave, Convex (A)

* Fill ups :

7] The molecular formula of benzene is C_6H_6 .

8] With the help of right hand thumb rule the direction of a magnetic field can be decided.

9] Translocation system is needed to carry food and oxygen from one place to another place.

10] Scientist Mendel presented the main laws of heredity.

11] The focal point of a spherical mirror is the midpoint of the line ~~point~~ joining its

pole and C.

12] Electrical wires are coated with PVC.

* True/False :-

13] The order of reactivity of metals is
 $Mg > Al > Zn > Fe$. True

14] Syphilis is a STD. True

15] The diameter of the eyeball is 2.3 cm. True

16] H^+ ions do not dissociate from HCl molecules in the absence of water. True

* Answers as directed :-

17] By which hormone is metabolic processes essential for body growth regulated?

→ Thyroid hormone.

18] By what does embryo in mother's body get nutrition?

→ Placenta.

~~19]~~

19] Find & write mis-matched pair from the following:

- (A) Myopia - Focal length of eye lens decreases
- (B) Hypermetropia - Focal length of eye lens increases
- (C) Presbyopia - There is no change in the focal length of eye lens.

→ Presbyopia (C)

20] Not in Giala.

* NO Match:

21] Menstruation - 2 to 8 days.

22] Menopause - After 45 years.

23] CFCs - Chlorofluorocarbons.

24] UNEP - United Nations Environment Programme.

Section: B



* Q/A

25 What type of changes are observed during reaction?

- (1) Change in physical state of the substance.
- (2) Change in colour observed in the substance.
- (3) Evolution of a gas appears during ^{the} reaction.

26 What is gangue? On which factors, the process used for removing the gangue from the ore depend?

→ The impurities present in ore are called gangue.

→ The process removing the gangue from the ore depends on the differences between the physical or chemical properties of the gangue and ores.

27 What advantage over an aquatic organisms does a terrestrial organism have with regard to obtaining oxygen for respiration?

→ Air contains about 21% oxygen while water has 1% oxygen in dissolved state.

→ A terrestrial organism is able to get several times more oxygen than aquatic animal.

28] Variation is necessary for existence of a species." Explain.

→ Specific species or its population live in the particular environment or habitat which is suitable to them.

→ There are changes taking place on earth for eg: Variation in the water level, etc.

→ With the help of variation geographical distribution of organisms increase.

→ Hence, Variation is necessary for the maintenance of existence of any species.

29] Explain Post-Fertilisation events in flowering plants.

→ After fertilisation, zygote divides several times to form an embryo within the ovule. The ovule develops a tough coat and is gradually converted into a seed.

→ The ovary grows rapidly and ripens to form a fruit.

54/ Write a short note: Consumers.

→ Organisms that consume the food prepared by producers are called Consumers.

→ Animals are consumers in any animals.

→ Consumers are divided as herbivores, Carnivores, Omnivores and Parasites categories.

56/ What are life processes? Write its names.

→ The main processes that are carried out by all the living organisms in order to sustain their existence as living beings are called Life processes.

→ Its Names:

- (1) Nutrition
- (2) Excretion.
- (3) Respiration
- (4) Transport.

Question Paper: 3

Section: A



* MCCQ

1. Which of the following is neutral?

→ An aqueous solution of salt - NaCl (D)

2. Which is the first member of alkyne ~~not~~ homologous series?

→ Ethyne (A)

3. _____ are necessary for autotrophs.

→ all of the given.

4. If five equal pieces of a resistance wire having $5\ \Omega$ resistance are connected in parallel, their equivalent resistance will be _____.

→ $1\ \Omega$ (B)

5. The magnification produced by a plane mirror is always _____.

→ 1. (B)

6. Jalshi finds it difficult to see nearby objects comfortably and distinctly. What is cause of this effect?

→ (1), (2). (A)

* Fill ups :

7. ~~Q~~ Graphite structure is formed by the hexagonal arrays being placed in layers one above the other.
8. If current through a horizontal power line flows in east to west direction. When viewed from the east end, the magnetic field at any point below or above the wire turns clockwise in a plane perpendicular to wire.
9. Resin and gum are excretory materials of plants.
10. There are 23 pairs of chromosomes found in somatic cells.
11. The formula of magnification of a mirror is $\frac{-v}{u}$.
12. N ~~o~~ non-metal possess lustre.

* True/False

13. Bromine is a Gas. False.
14. When a girl is born, her ovaries contain thousands of immature ovules. True.
15. If the ciliary muscles are relaxed, then the eye lens is thin. False.
16. Electricity cannot pass through the aqueous solution of NaOH. False.

* Answer as directed:

17. Which gland is responsible to prepare body for emergency condition, i.e., either fight or flight?

→ Adrenal gland.

18. What is there in the stigma of a flower?

→ Pollination.

19. Find & write the mis-matched pair from the following.

(A) Correction of near-sightedness defect - Concave lens

- (B) Correction of far-sightedness defect - Convave lens
(C) Cataract Surgery.

→ (B) ~~Convave~~ Correction of far-sightedness defect.

20: How many e^- are there in 1 coulomb electrical charge?

→ 6.25×10^{18} power - 18.
 6.25×10^{18}

* ~~Match~~ Match :

21. Mid brain - listening.

22. Hind brain - Salivation.

23. Grass - Producers.

24. Kite - Tertiary Consumers.

25. Give the characteristics test of following gases:
(1) CO_2 (2) NO_2 .

→ (1) Lime water test, Fire extinguisher test, Dry ice test, etc. --- are the characteristics of CO_2 .

(2) The characteristics test for NO_2 is litmus paper. It changes blue litmus to red.

26. Give an example of metal which is
(1) Good (best) of heat.
(2) Can be cut with a knife.

→ (1) Silver and copper.
(2) Sodium and Potassium.

27. Differences: Aerobic & Anaerobic Respiration.

Aerobic	Anaerobic
---------	-----------

- | | |
|--|--|
| 1. Aerobic respiration occurs in the presence of oxygen. | Anaerobic respiration occurs in the absence of oxygen. |
| 2. Occurs O_2 is used in this process. | O_2 is not used in this process. |
| 3. Found in all higher plants and animals. | Usually, found in microorganisms. |
| 4. Non-Toxic to the organisms. | Toxic to higher organisms. |

28. How is an organism benefited by reproduction through spores?

→ Spores remain coated with protective envelope under unfavourable conditions. This helps to survive in adverse conditions. Thus, Organism is benefited by spore formation.

29. Can you think of reasons why more complex organisms cannot give rise to new individuals through regeneration?

→ Different cell types perform different specialised functions.

→ Complex organisms have tissues and organs.

→ Reproduction in more complex organisms is the function of a specific cell type.

32. State the advantages of parallel connections of resistors.

→ Advantages: (1) In parallel combination, each appliance gets the full voltage.
If one appliance gets on/off then other appliances get

→ (2) If one appliance on/off are affected, affected

→ (3) The parallel circuit divide the current through the appliances.

35. What is food web? Give brief information with example.

→ A food web is made up of several interlinked food chains.

→ A food web is comparable to a food chain ~~except~~ ~~that a food~~

→ A single organism is occasionally consumed by a large number of predators.

→ As a result, numerous trophic levels become ~~interlin~~ interlinked and display the flow of energy.

→ Example: Grass is eaten by rat, rabbit, deer, and goat. Further rat is eaten by snake, and ~~both~~ Snake is eaten by eagle and peacock.

36. What is double circulation of blood?

→ Blood passes through the heart twice during each cycle in human beings. This is called double circulation.

→ The right side of the heart receives de-oxygenated blood from the cells and ~~the~~ tissue

→ The left side of the heart receives oxygenated blood from lungs. ~~which~~ is ~~from~~. This is called double circulation.

34] Why is garden considered as an ecosystem?

→ Various kinds of plants such as grasses, trees and many flower bearing plants and animals like frogs, squirrel, insects, birds, etc... are found in garden.

→ Their growth, reproduction and other activities are affected by the abiotic components such as light, wind, water, minerals, soil, etc.

→ So, a garden is considered as an ecosystem.

32. Total power W
 $= 400 \text{ W (Refrigerator)} + 100 \text{ W (Electric Bulb)}$
 $= 500 \text{ W.}$

Use of both the appliances in days (in hours)
 $= 10 \frac{\text{hours}}{\text{day}} \times 10 \text{ days} = 100 \text{ h.}$

$=$ Total ~~elec~~ electric energy used.
 $= P \times t$

$= 500 \text{ W} \times 100 \text{ h}$

$= 50,000 \text{ Wh}$

$= 50 \text{ kWh.}$

Question Paper : 4

Date _____
Page _____

Section: A

* MCS

1. In $\text{CaCl}_2 + \text{X} \rightarrow \text{CaSO}_4 + 2\text{NaCl}$; X =

→ Na_2SO_4 (A)

2. Whose allotropic form is fullerene?

→ Carbon. (C)

3. In human, the kidney is a part of system.

→ Excretory (C)

4. SI Unit of resistivity is

→ $\Omega \text{ m}$ (B)

5. What is the relations between the radius of curvature (R) and focal length (f) of a spherical mirror?

→ $R = 2f$ (D)

6. Khanak cannot distinctly see an object 2m far from his lens of what power is required to correct this defect?

→ -0.5 D (B)

* Fill ups :

7. Nickel catalyst is used to manufacture vegetable ghee from vegetable oil.
8. Magnetic force acting on a current carrying wire kept in a magnetic field is in Perpendicular direction to the magnetic field.
9. In humans, the fluid other than blood that helps in translocation is lymph.
10. Gene is a specific section of DNA, that provides information for synthesis of a specific protein.
11. The principal focus of a convex mirror is at the back side of the mirror.
12. 1g of gold can be drawn into wire of length 2 km.

* True / False :

13. Copper reacts with dilute HCl. False.
14. Variation is useful for the survival of species. True.
15. In human eye, the image of an object is

formed on the retina. True.

16. pH of solution A is 6 and pH of solution B is 8, then solution B is more acidic than solution A. False.

* Answers as Directed:

17. What are the components of Peripheral Nervous System? (PNS)
Cranial

→ * ~~Cranial~~ Nerves.

* Spinal Nerves.

18. The number of chromosomes is halved compared to that in vegetative or somatic cells of an organism. What is this action called?

→ Meiosis.

19. Find and write mis-matched pair from the following:

(A) Twinkling of Star - Uniform atmosphere.

(B) Blue colour of the sky - Scattering of light.

(C) Rainbow - Suspended small particles of water in atmosphere.

→ (A) Twinkling of Star - Uniform atmosphere.

20. The rating of an electric bulb is 220 V & 100 W. When the potential difference of 110 V is applied, what would be the power used in it?

→ 25 W.

* Match :

21. Auxin - Phototropism.

22. Gibberellin - Helpful in the growth of the stem.

23. Bio-magnification - Accumulation of chemicals.

24. Ecosystem - A system formed by an interaction between living and non-living.

Section: B

25. Give example of chemical reactions observed in daily life.

- (1) Cooking of food.
- (2) Digestion of food in the body.
- (3) Milk get spoiled at room temperature during summer.

28. Difference Between: Artery and Vein.

→	Artery	Vein.
(1)	Oxygenated blood is carried away from the heart by arteries.	Deoxygenated blood is carried towards the heart from the body parts by Veins.
(2)	In Artery, the blood flows under higher pressure.	In Vein, the blood flows under low pressure.
(3)	Walls of arteries are thick.	Walls of veins are thin.
(4)	In Arteries, Valves are absent.	In Veins, Valves are present.

29. How are pollination & Fertilisation processes different? → Next forward.

a rectangular glass slab with the diagram.

Section: B

29. How are Pollination and Fertilisation processes different?

→ Pollination is the process of transfer of pollen grains from the anther of a stamen to the stigma of a carpel.

→ Fertilisation is the process of fusion of male gamete with a female gamete to form a zygote.

4. This process takes place on outer part of flower, so it is an external mechanism.

This process takes place inside the flower, so it is an internal mechanism.

1. Pollination is an external.

Fertilisation can either be internal or external.

32. What is electric power? Write its formula.

→ Work done by electric current in unit time is called electric power.

Electric power (P) = $\frac{\text{electric work (W) done or electric energy used}}{\text{time (t)}}$

34. Describe biological magnification.

→ Successively increasing concentration of some substance at various trophic levels of a food chain of organisms is known as biological magnification.

→ Living organisms depend on each other for their food requirement and form a food chain.

35. What will happen if we kill all the organisms in one trophic level?

→ If we kill all the organisms in one trophic level then organisms of next trophic level will ~~get~~ not get food and the entire food chain gets disturbed.

→ Due to this, ecosystem will be in imbalance.

36. Identify the given diagram and label the parts a, b, and c. Name the method of asexual reproduction.

→ (a) Sporangium
(b) Spores
(c) Hyphae

Section: A

* MCCQ :-

1. Which of the following pair is not appropriate?

→ Tomatoes - Tartaric acid. (D)

2. The molecular formula of ethane is C_2H_6 , there are _____.

→ 7 covalent bonds. (B)

3. In which part of the body is blood oxygenated?

→ Lungs (D)

4. Which of the following physical quantities has unit kWh?

→ Work (A)

5. What happens to an obliquely incident ray travelling from glass to air?

→ It bends away from the normal. (C)

6. According to Indian Almanac the actual sunrise of a day is 6:32 AM, then the sun will appear in the horizon at _____ AM.

Date _____
Page _____

→ 6:30 Am. (C).

* Fill in the blanks :

7. Methane is the major component of biogas.
8. The magnetic field lines in the interior of a solenoid are mutually parallel lines.
9. With the help of mineral nitrogen protein can be synthesised.
10. When tall pea plant (TT) and short pea plant (tt) were ~~hybrid~~ hybridised it produced all tall progeny because tallness is dominant trait.
11. An incident ray, parallel to principal axis, after reflection passes through F.
12. The molecular formula of cinnabar is HgS.

* True or false:

- 13. There are two ionic bonds in magnesium chloride. True
- 14. The structure of the seed consists of plumule as future shoot and radicle as future root. True
- 15. Iris does not control the size of the pupil. False
- 16. Farmers add gypsum if the pH of the soil is ~~to~~ less ~~than~~ than 6.5. False

* Answer as directed:

17. Deficiency of what in a diet causes disease goitre?

→ Iodine.

18. What type of asexual reproduction occurs in spongyae?

→ Fragmentation.

19. Find and write the mismatched pair from the following:

→ (B) Absorption Capacity of the eye.

- (A) Cataract - A milky layer formed in the lens.
- (B) Absorption capacity of the eye - Delicate integument.
- (C) Eyeball - Behaves like a camera.

* Match :

21. Potato - Tuber stem.

22. Bryophyllum - Buds on the notch of the leaf margin.

23. Omnivores - Secondary Consumers.

24. Herbivores - Primary Consumers.

20. Write the formula of equivalent resistance of parallel connection of resistances.

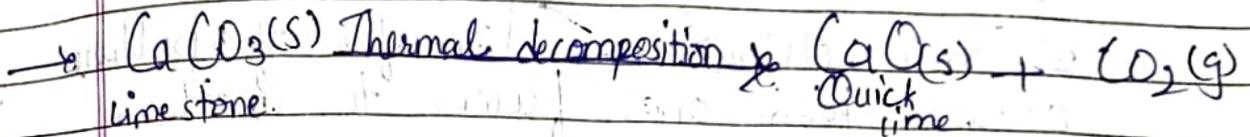
$$\rightarrow \frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} \quad \text{where}$$

R_1, R_2 & R_3 are resistances in parallel.

Section: B

25. Which substance is used to prepare cement? Write its preparation.

→ Calcium Oxide is used in the manufacture of cement.



27. Why is it necessary to separate oxygenated and deoxygenated blood of mammals and birds?

→ It is necessary to separate oxygenated and deoxygenated blood in mammals and birds because it allows a highly efficient supply of oxygen to the body and this is useful in their high energy needs for to maintain constant body temperature.

28. What changes occurs in girls at puberty?

→ In girls, breast size begins to increase with darkening of the skin of the nipples and ~~ment~~ menstruation begins at the time of puberty.

29. What is pollination? State its types.

→ A process of transfer of pollen from anther of ~~the~~ stamen to the stigma of pistil is

is called pollination.

→ There are ~~two~~ (1) Self pollination: Transfer of pollen occurs in the same flower.

(2) Cross pollination: Transfer of pollens occurs from one flower to another.

34. Why is depletion of ozone layer a concern for us?

→ Ozone performs an essential function at the higher level of the atmosphere.

→ It absorbs shorter wavelength UV rays from the sun. Thus, it protects the living system on earth.

→ Depletion of ozone will lead to UV rays directly reaching the earth which is ~~harmful~~ harmful for living organisms.

35. What is the role of decomposers in an ecosystem?

→ Decomposers feed on the excretory substances as well as dead bodies of plants and animals.

Bacteria and fungi are decomposers.

- They breakdown the complex organic substances into simple inorganic substance.
- Such simple inorganic substances are used up by the plants again.
- So, they play an important role in cyclic pathways of the elements.

36. How are the alveoli designed to maximise the exchange of gases?

- The alveoli are located at the terminal end of bronchioles. They are balloon-like structure provides large surface area for exchange of gases with an extensive network of blood vessels.

Question Paper: 6

Section: A

Date _____
Page _____

* MCS :

1. An aqueous solution of which salt has pH of 7?

→ KNO_3 (D)

2. Which of the following are unsaturated compounds?

→ (2) and (3) (D)

3. Which of the following organisms breaks down/digests food components outside the body?

→ Mushroom. (A)

4. $1 \text{ kWh} = \text{--- J.}$

→ 3.6×10^6 (A)

5. What is the diameter of reflecting surface of a spherical mirror called?

→ Aperture. (B)

6. What is true for cataracts in the eye?

→ All of the given (D)

* Fill in the blanks :

7. Fluorine contains 60 carbon atoms.

8. The value of AC voltage used for domestic consumption in India is 220V.

9. A biological catalyst is called enzyme.

10. The presence of a Y-chromosome in human is essential for male.

11. A concave lens always gives image smaller than the object.

12. Dhruvajsinh wins a bronze medal in the game of badminton, then the medal would be made of Cu+Sn.

* True/False

13. Magnesium burns in air with flickering flame. False.

14. On the surface of the potato tuber, there are many buds for asexual reproduction. True.

15. The electrical signals related to image reach the brain by optic nerves. True.

16. The chemical reaction between acid and water is called neutralisation. False

* Answer as directed :

17. The movement of tendril of a pea plant is an example of which type of tropism?

→ Thigmotropism.

18. In which organism do both regeneration and budding mode of asexual reproduction occur?

→ Hydra.

19. Find and write mis-matched of the following:

(A) $\angle i$ = angle of incidence.

(B) $\angle e$ = angle of refraction.

(C) $\angle D$ = angle of deviation.

→ (B). $\angle e$ = angle of refraction.

20. A wire of resistance R is cut into five equal pieces. If each piece is connected in parallel, the resultant resistance is R' , then find the ratio $\frac{R}{R'}$.

→ $\frac{R}{R'} = 25$.

* ~~Match~~ Match :

21. Medulla oblongata - Regulation of Salivary
22. Cerebellum - Balance of body.
23. Grass, flowers and leather - Biodegradable
24. Glass, polythene, plastics - Non-biodegradable.

Section: B

27. What are enzymes? What is the function of digestive enzyme.

→ Enzymes are the bio-catalyst which helps the organism to breakdown their food is called enzyme.

→ Digestive enzymes hydrolyse/digest complex component (Carbohydrates, lipids, proteins) of food into simple, soluble and absorbable form of nutrients.

28. Difference Between: Sexual and Asexual reproduction

Asexual

Sexual reproduction

- | | |
|--|--|
| 1. The sex of an organism does not play any role in the reproductive processes. | The organisms involved are either bisexual or the two individuals are of opposite sex. |
| 2. The new organism has all the characters of the parent organism without any change in the hereditary characters. | The new individual follows laws of inheritance and therefore, differs from its parent organisms. |
| 3. With changing environment asexual reproduction is not sufficient to sustain life. | With changing environment, sexual reproduction is essential to sustain life. |
| 4. Asexual reproduction is of different types | No specific types of sexual reproduction. |

29. Give examples and types of flowers based on reproductive parts.

1) Unisexual flower: When flower contains either stamens and pistil, it is called unisexual flower. eg: Papaya, Watermelon.

2) Bisexual flower: When flower contains both stamens and pistil, it is called bisexual flowers. eg: Hibiscus, mustard.

32. Define electric current, write its formula and unit.

→ An electric circuit is a continuous and closed path of an electric current.

→ If a net amount of electric charge Q , flows across any cross-section of a conductor in time t , then the current I , through the cross section is $I = \frac{Q}{t}$ (12.1)

→ SI unit of electric charge is coulomb (C) and time is second (s).

→ The SI unit of electric current is ampere (A), named after the French scientist, Andre-Marie Ampere.

→ Hence from equation, $A = \frac{C}{S}$.

34. What can be contributed to reduce the problem of waste disposal? Write the names of its two methods.

→ (1) Biodegradable domestic wastes such as left-over food, fruit and vegetable peels, dry leaves and other wastes of gardens, etc. can be buried in a pit. They are converted into compost and used as a manure.

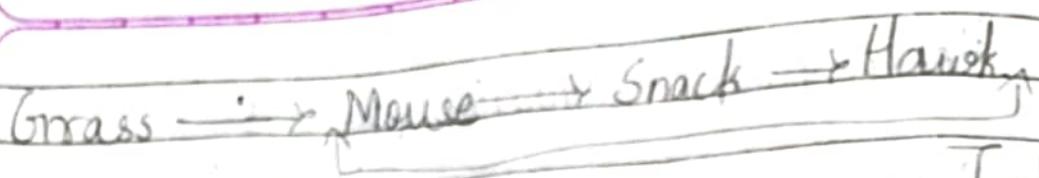
(2) Waste materials such as tin, cans, paper, glass, metallic articles are recycled. Through the process of recycling such materials are reused to form new products.

35. What are trophic levels. Give an example of food chain and state its various trophic levels.

→ Successive ~~to~~ levels of nourishment ~~in~~ in the "food ~~call~~ chain are ~~called~~ known as trophic levels.

→ ~~Food chain is~~ It shows transfer of energy in an ecosystem.

→ Food chain is a ~~series~~ sequential list of prey predator relationship.



Producers	Primary Consumers	Consumers	Tertiary Consumers
First Trophic Level	Second trophic level	Secondary Consumers	Fourth Trophic Level
		Third Trophic level	

36. What is lymph? Write its functions.

→ Lymph is a colourless fluid involved in transportation. It is also called tissue fluid.

- * Functions : (1) Lymph carries digested and absorbed fat from intestine.
- (2) It drains excess fluid from intercellular space back into the blood.