

Section – I (12 × ½ = 6)

Note: (i) Answer all the questions.

(ii) Each question carries ½ mark.

1. $6\text{CO}_2 + 12\text{H}_2\text{O} \xrightarrow[\text{Chlorophyll}]{\text{light}}$ 'x' + $6\text{H}_2\text{O} + 6\text{O}_2$. What does the 'x' indicates?
2. What is the structural and functional unit of lungs?
- 3.

Name of the Animal	Weight of the body	Weight of the Heart	No. of beats / min
Elephant	3000kg	12 – 21 kg	46

What is the relation between weight of the body and Heart beat?

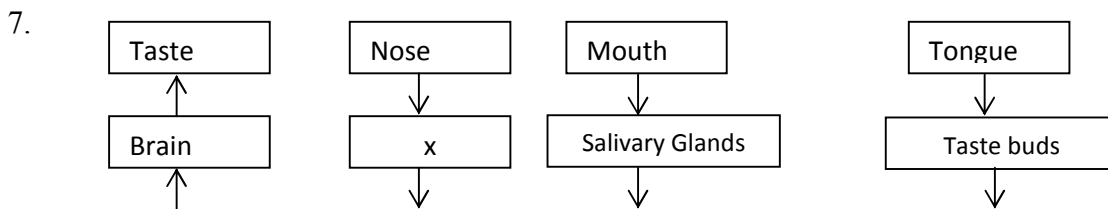
4. What are the Excretory product of given organ?



5. Read the following correct and rewrite if necessary?

i) There are 14 pairs of cranial nerves and 31 pairs of spinal nerves.

6. I am a Endosperm. I formed by the fusion of second male nucleus of pollen tube with the fusion nucleus. This is called _____



What does 'x' indicates?

8. Identify the mismatched pair

- 1) Lawmarck - Population theory
- 2) Charles Darwin - Natural Selection
- 3) Charles Lyell - Principles of Geology

9. Grass → Grass hopper → Frog → Snake → Hawk

Identify the position of 'Frog' in the given food chain.

10. What does the given symbol indicate? →



11. What are Green house gases?

12. Expand STD.

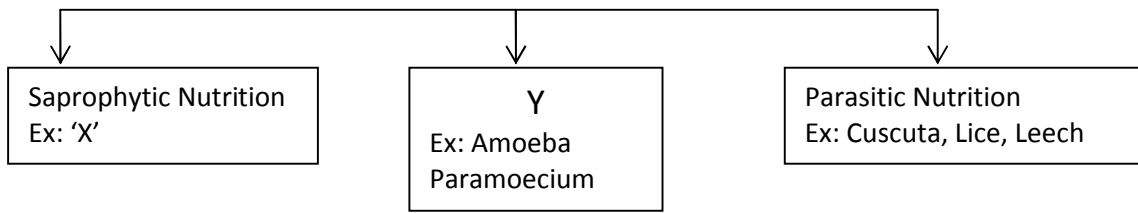
Section – II (8 × 1 = 8)

Note: (i) Answer all the questions.

(ii) Each question carries 1 mark.

13. If you have a chance to meet Pulmonologist. What questions do you ask?

14.



What are 'X' and 'Y'?

15. What does the figure shows? What is the systolic pressure?



16. I am a hormone, secreted only when concentrated Urine formed in our body. Who am I _____ ?

17.

Name of the gland	Location	Hormone	Response of body to hormone
Thyroid	Neck	X	General growth rate and metabolic activity
Y	Attached to Kidneys	Adrenalin	Increase heart beat rate, Rise in blood sugar, Dialation of the coronary Artery and pupil of the Eye

What are 'X' and 'Y' ?

18. What is colostrum?

19. What is the role of 'Ghrelin' and 'Leptin' ?

20. What are fossils? What is the method used to determine the age of fossil?

Section – III (8× 2 = 16)

Note: (i) Answer all the questions.

(ii) Each question carries 2 marks.

21.

Gas	% in inhaled air	% in exhaled air
Oxygen	21	16
Carbon dioxide	0.04	4
Nitrogen	79	79

1) Why there is no change in nitrogen in inhaled air and exhaled air?

2) Why CO₂ percentage raised in exhaled air?

22. What are biodegradable, non degradable wastes. Write with examples.

23. How blood clotting occurs write in flow chart form?

24. Write differences between primary metabolites and secondary metabolites.

25.

Hormones	Uses
Auxins	?
Cytokinins	?

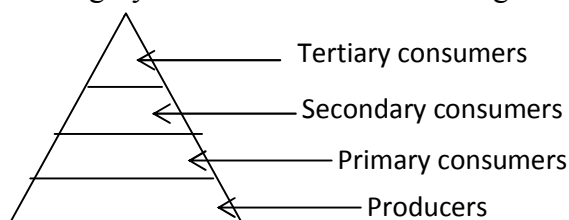
Write uses of that hormones.

26. Ravi and Suma are a newly married illiterate couple. They don't want children for few years. Suggest some birth control methods for them.

27. Fill the given Table.

Type of teeth	Number	Shape	Function

28. Observe the following Pyramid of Number which is given below and answer the questions.

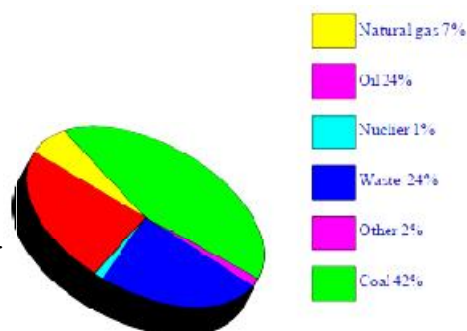


- As per the number of organisms in the trophic level, which group of organisms are more in number and which are less in number?
- What happens if secondary consumers disappear?

Section – IV (5×4 = 20)

29. a) Suggest any eco-friendly methods for prevention of soil pollution in view of avoiding pesticides?
(OR)

- Give reasons.
 - If we press tongue against the palate, we can recognize taste easily.
 - We can't identify taste when food is very hot.
 - If glucose level falls in blood we feel hungry.
 - Small intestine is similar to a coiled pipe.



30. a) Observe the below pie diagram and answer the questions.

- Which fuel is consuming very less?
- What are fossil fuels?
- Why do we need to conserve these fuels?
- Do you think bio fuel is alternative to fossil fuels & Why?

(OR)

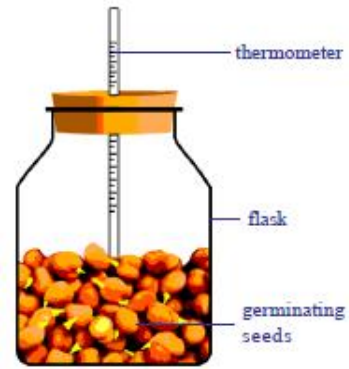
b) Explain monohybrid experiment with an example. Which law of inheritance can we understand?
Explain.

31. a) How would you demonstrate that green plants release oxygen when exposed to sunlight?

(OR)

b) Observe the experimental set up and answer the given questions:

- i) What is the aim of this experiment ?
- ii) What are the apparatus required for this experiment?
- iii) What changes do you observe in thermometer during this experiment?
- iv) What will happen, if dry seeds are taken instead of germinating seeds in this experiment?



32. a) Study the given paragraph and answer the questions.

When you cut yourself, the blood flows out of the wound for only a short time. Then the out is filled with a reddish solid material. This solid is called a blood clot when blood flows out, the platelets release an enzyme called thrombokinase. Thrombokinase acts on another substance present in the blood called pro-thrombin converting it into thrombin. Thrombin acts on another substance called fibrinogen that is present in dissolved state converting it into insoluble fibrin. The blood cells entangle in the fibrin fibers forming the clot.

- a) Which blood cells are helpful in blood coagulation
- b) Which enzyme is responsible for blood coagulation when does it release?
- c) How does soluble fibrinogen in blood converts into insoluble fibrin fibers?
- d) What will happen, if blood doesn't coagulate when wound occurs?

(OR)

b) Analyse the following information and answer the questions.

Name of the Phylum organism	Excretory system
Protozoa	Simple diffusion from the body surface into the surrounding water
Porifera and coelenterates	Water bathes almost all their cells
Platyhelminthes	Flame cells
Nematoda	Rennete cells
Annelids	Nephridia
Arthropoda	Green glands, Malpighian tubules
Mollusca	Meta nephridia
Echinodermata	Water vascular system
Reptiles, Birds and Mammals	Kidneys

- a) How do unicellular organisms remove waste products?
- b) Name first formed excretory structures.
- c) What are the excretory organs in earthworm?
- d) What are excretory organs in nematode?

33. Draw a neat labeled diagram of Nephron? (or) Draw the structure of L.S of flower and label the parts.