

[Answer any four of the following questions]

1. ► Mr. Asharaf import 48 chicken eggs. After the hatching of the eggs, he observed 39 chicken's feather white and 9 contain colored. After investigating their origin he came to know that the eggs are laid by white feathered chicken.

- a. Define test cross. 1
- b. What is meant by Hemophilia? 2
- c. Find out the genotypes of the phenotypes from the stem and show the cross up to the first filial generation using appropriate example. 3
- d. Find out the genotypic ratio up to the 2nd filial generation using checker board and compare its phenotypic ratio with Mendel's law. 4

2. ►



Fig-A



Fig-B

- a. Define dendrite cell 1
- b. How germs are killed inside the stomach. 2
- c. Write the process by which "Fig. A" play vital role in 2nd line defence with figure. 3
- d. Explain- "fig. B" is significant in 3rd line defence for its special structure. 4

3. ► Mrs. Sadiya was recalling about the first cry of her only son Aayan who is 6 years old now. Besides this behaviour, Aayan acquired all the Learned behaviours up to his age.

- a. Define Ethology. 1
- b. Write five observations and three inference of Darwinism. 2
- c. Write down the characteristics of the behaviour under which crying behaviour is included. 3
- d. Both type of heaviour in the stem are not same -Explain it. 4

4. ► Figure is not found in main question.

The Figure shows-the relative thickness of the lining of the uterus in a woman during a menstrual cycle of 28 days.

a. Place the letter G on the diagram at the point when conception is likely to take place. 1

b. Draw the figure of sperm with the function of Acrosome. 2

c. Describe the cycle with figure that takes place at B point. 3

d. There is a interdependent relationship between X and Y Axis of the diagram in the above cycle that is indicated in the above stem— Explain it. 4

5. ► Rahima is a patient of asthma. Last few days she couldn't respire properly and felt chest pain. She felt suffocation and was breathing so fast. She needed to go to hospital for taking O₂. Doctor found that O₂ and CO₂ carrying pigment wasn't working properly and told that she felt chest pain because of angina.

- a. What is Vasoconstriction? 1
 - b. For this process to work effectively there must be differences in concentration the gases in the blood and alveolus. Give two ways in which these concentration differences are maintained. 2
 - c. Write about the disease of the stem with symptoms that is related to the heart. 3
 - d. Explain how the above pigment helps Rahima to recover her suffocation and metabolism. 4
6. ► Observe the following figure and answer the following questions:



Fig-A



Fig-B

- a. What is Helicotrimita? 1
- b. What is meant by Organ of Corti? 2
- c. Write the name, Nature, Origin, distribution and function of the nerve that is related to both figures and draw the path sound wave during hearing that takes place in fig. B. 3
- d. Explain - Without Fig - A it is not possible to balance our body. 4

[Darken the circle (O) with black ball point pen from the alternatives]

1. What is the meaning of "Bios"?
 (a) Living (b) Life
 (c) Variation (d) Variety



2. Which one bears water vascular system?
 (a) X (b) Y
 (c) Z (d) O
3. Which one carries cartilagenous endoskeleton?
 (a) X (b) Y
 (c) Z (d) O

4. Cycloid scale present in which one?
 (a) X (b) Y
 (c) Z (d) O
5. In fig 'O' what kinds of things is necessary in marked m?
 (a) Mucus secretory cell
 (b) Cnidoblast cell
 (c) Ciliated cell
 (d) Flagellated cell

6. On the basis of the phylum all members are marine in which one?
 (a) X (b) Y
 (c) Z (d) O
7. What is the name of the class of fig (X).
 (a) Chordata
 (b) Sarcopterygii
 (c) Actinopterygii
 (d) Chordrichthyes

8. Malpighian tubules act as a—
 i. Kidney
 ii. Heart
 iii. Liver
 Which one is correct?
 (a) i (b) ii
 (c) i & iii (d) ii & iii
9. Hypopharynx seems just like a —
 (a) Teeth (b) Tongue
 (c) Forehead (d) Lip

10. Tracheal system is present in which one?
 (a) Salmon (b) Sponge
 (c) Sp (d) Earthworm



11. Which one is the pigment of the fluid contain marked X?
 (a) Bilivardin (b) Haemoglobin
 (c) Xanthophyl (d) Haemocyanin

12. Which one excreted by marked Y.
 (a) Arsenic (b) Haemocyanin
 (c) Copper (d) Iron
13. Y marked store vitamin—
 i. C ii. D
 iii. A
 Which one is correct?
 (a) i & ii (b) i & iii
 (c) ii & iii (d) i, ii & iii

14. Endocrine gland secretes what kind of thing?
 (a) Enzyme (b) Lymph
 (c) Hormone (d) Plasma
15. Which is not related with female?
 (a) Androgen (b) Progesteron
 (c) Estrogen (d) Relaxin

16. What is the ratio of mendels 1st law?
 (a) 9 : 3 : 2 : 1 (b) 1 : 2 : 1
 (c) 3 : 1 (d) 3 : 2 : 1
17. What is the phenotype of love bird?
 (a) White
 (b) White with black spot
 (c) Blue
 (d) Black

18. What is the percentage of Black offspring of F2 Generation after crossing that type of parents?
 (a) 20% (b) 25%
 (c) 50% (d) 55%
19. Epididymis is the part of—
 (a) Male reproductive organ
 (b) Kidney
 (c) Female reproductive organ
 (d) Liver

20. Which one secretes from lacrimal gland?
 (a) Hormone (b) Enzyme
 (c) Sweat (d) Tear
21. What types of eye muscles are present in your eye?
 (a) 2 (b) 4
 (c) 6 (d) 8

22. In which layer fovea centralis in present?
 (a) Schlera (b) Choroid
 (c) Retina (d) Cornea
23. What is the smallest bone in your body?
 (a) Femur (b) Malleus
 (c) Humerus (d) Stepes

24. Which one is the longest bone in your body?
 (a) Femur (b) Malleus
 (c) Humerus (d) Stepes

25. What is the number of true ribs in your Thoracic party?
 (a) Humerus (b) Femur
 (c) Incus (d) Stepes

26. What is the another name of voluntary muscle?
 (a) Skeletal (b) Smooth
 (c) Simple (d) Complex
27. Adrenal cortex secretes from which one?
 (a) Corticone (b) Cortisol
 (c) Insuline (d) Testosterone

28. Purkinje fibers related with—
 i. Ventricles
 ii. Artery
 iii. Bundle of his
 Which one is correct?
 (a) i & ii (b) i & iii
 (c) ii & iii (d) i, ii & iii

29. What is the average normal heart rate (per minute)?
 (a) 65 (b) 75
 (c) 85 (d) 95

30. Which one mix with thromboplastin to modified thrombin for Blood clotting?
 (a) Thrombocyte (b) Prothrombin
 (c) Febrinogen (d) Fibrin

31. Otitis media is a infection of which part?
 (a) Middle ear (b) Lung
 (c) Sinus (d) Bronchus

32. Symptoms of lung of a smokers in x-ray is—
 i. Costrophrenic angles are normal
 ii. Produce aryl- Hydrocarbon-Hydroxylase
 iii. No carcinogenic cells are present
 Which one is correct?
 (a) i & ii (b) i & iii
 (c) ii & iii (d) i, ii & iii

33. For Dialysis, Blood collect from which part?
 (a) Artery of Hand
 (b) Vein of Hand
 (c) Kidney
 (d) Heart

34. What is the another name of stomach?
 (a) Cardiac (b) Renal
 (c) Gastric (d) Hepatic

35. What is HIV?
 (a) Human Immune deficiency virus
 (b) Human Immune disease virus
 (c) Human Immune deficiency syndrome
 (d) Human deficiency virus

1	(b)	2	(c)	3	(b)	4	(a)	5	(b)	6	(c)	7	(c)	8	(a)	9	(b)	10	(d)	11	(a)	12	(a)	13	(a)	14	(d)	15	(a)	16	(c)
17	(c)	18	(b)	19	(a)	20	(d)	21	(c)	22	(c)	23	(d)	24	(b)	25	(b)	26	(b)	27	(b)	28	(b)	29	(b)	30	(b)	31	(a)	32	(d)
33	(a)	34	(c)	35	(a)																										