

Model Question of HSC Examination 2020

Biology Second Paper

Subject Code :

1	7	9
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Time — 2 hours 35 minutes Creative Essay Type Full Marks — 50

[N.B. -The figures in the right margin indicate full marks. Read the stems carefully and answer the associated questions. Answer any five questions.]


1.  Observe the figure and answer the following question.



Figure: A

- Define Phototaxis? 1
- What do you mean by Test cross? 2
- The animals which possess the organ of the stem belong to which Phylum? Why? 3
- How does B take part in the absorption of food? Discuss briefly? 4

2. ► Ridoy is a student of class Twelve. He is reading about two different invertebrate animals in his zoology book. The

first one moves by jumping using hind limb and has special types of mouth parts. On the other hand, another animal has no normal death.

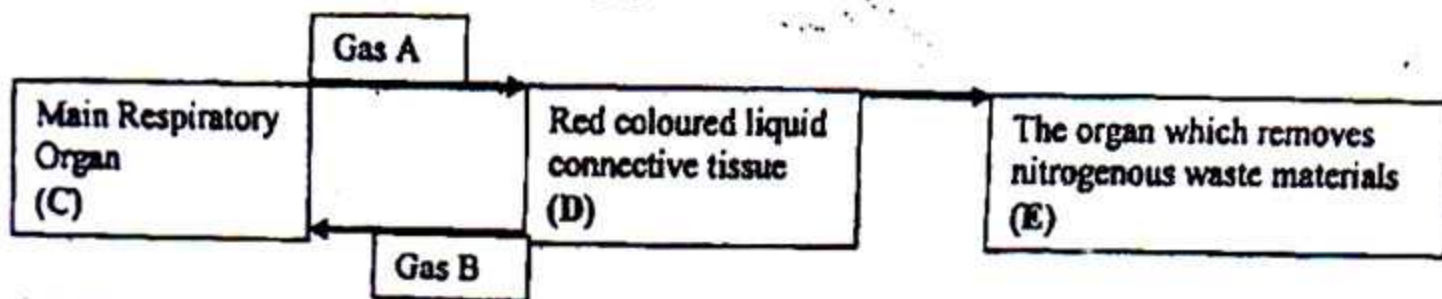
- a. What is Complement? 1
- b. What do you mean by Natural Passive Immunity? 2
- c. Describe the locomotory process of the last animal. 3
- d. "The blood circulatory system of the first invertebrate animal is different to us." Explain it. 4

3. ► Jony asks his father about the part of our body which controls the blood pressure. His father says that there are some sensory nerve endings in our heart which helps to maintain the normal range of blood pressure.

- a. Define Tubectomy? 1
- b. What is meant by Spermiogenesis? 2
- c. Discuss about the different junctional tissue of the organ which is mentioned in the stem. 3
- d. Do you agree to Jony's father Give arguments to your opinion. 4

4. ► In a race competition Rony fall down after 430 meter as his left leg was stuck in a hole. He was admitted to hospital and the doctor found a fracture in the compact part of his Femur.

- a. What is Helicotrema? 1
- b. What do you mean by Tropic hormone? 2
- c. Describe the structural unit or system of the fractured part of Rony. 3
- d. In the mentioned competition which types of lever were used by Rony? Discuss about it. 4
5. ► Human brain has 3 main regions. There are about 24 nerves which are originated from here.
- a. What is Sarcolemma. 1
- b. What do you mean by Limbus Cornea? 2
- c. Write down the functions of the first region of the stem. 3
- d. Describe the origin, nature and function of the nerves of the stem. 4
6. ★ Observe the stem and answer the following questions.



- a. What is Coronary Artery? 1
- b. What do you mean by Gluconeogenesis? 2

- c. Write down the role of E in Osmoregulation. 3
- d. How A and B are transported in the body? Discuss briefly. 4
7. ►

Embryonic or Germ Layers

(A)

Test tube baby

(B)

- a. What is Hypostome? 1
- b. What is meant by Peritreme? 2
- c. Write down the fate of the A. 3
- d. What is the procedure to produce the B? Discuss it briefly. 4
8. ★ Observe the figures and answer the following questions.



Figure: A

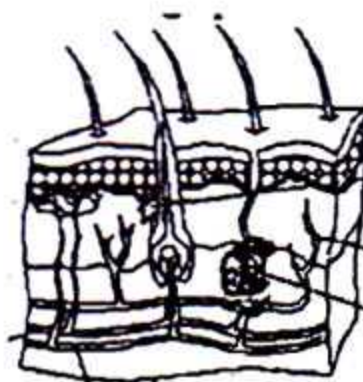


Figure: B

- a. What is Pseudocoelom? 1
- b. What do you mean by Penta Radial Symmetry? 2
- c. Describe different types of A briefly. 3
- d. "The role of B in immune system is immense." Analyze it. 4

Time — 25 minutes

[N.B.— Answer all the questions. Each question carries one mark. Block fully, with a ball-point pen, the circle of the letter that stands for the correct/best answer in the "Answer Sheet" for Multiple Choice Questions Examination. use a ball point pen. Each question carries 1 mark.]

1. What type of vaccine is applied to Diphtheria?

- (a) Inactivated
- (b) Attenuated
- (c) Toxoid
- (d) Conjugate

2. Which of the followings participate in 2nd line of defence?

- (a) Neutrophil
- (b) Tears
- (c) Cerumen
- (d) Bile

3. What is the nature of optic nerve?

- (a) Sensory
- (b) Motor
- (c) Mixed
- (d) Inter neuron

4. Which gland is ductless?

- (a) Parotid (b) Liver
- (c) Parathyroid (d) Toncil

5. In external ear what type of cartilage is found?

- (a) Hyaline
- (b) Yellow fibrous
- (c) White fibrous
- (d) Calcified

Observe the figure and answer the question no 6 and 7.



Figure:A

6. ★ The phase of the heart indicated in the figure-A is—

- (a) Atrial diastole

- (b) Atrial systole
- (c) Ventricular diastole
- (d) Ventricular systole

7. ★ The walls of the above organ are—

- i. Pericardium
- ii. Myocardium
- iii. Endocardium

Which one is correct?

- (a) i & ii (b) i & iii
- (c) ii & iii (d) i, ii & iii

8. Menstrual cycle occurs with the interval of — weeks.

- (a) 4 (b) 28
- (c) 50 (d) 60

9. The phenomenon where organism move according to certain chemicals in their environment is called—

- (a) Thermotaxis
- (b) Thigmotaxis
- (c) Aerotaxis
- (d) Chemotaxis

10. Flame cell is related to which system?

- (a) Respiratory
- (b) Excretory
- (c) Circulatory
- (d) Reproductive

11. Bones are joined to muscles by—

- (a) Tendon
- (b) Fiber
- (c) Ligament
- (d) Synapse

12. After Dialysis the blood enters into which part of the body?

- (a) Artery of the hands
- (b) Artery of the Kidney
- (c) Vein of the hands
- (d) Vein of the Kidney

13. ★ The characteristics of Aves are—

- i. Pneumatic bone
- ii. Toothless jaw
- iii. Ectothermic

Which one is correct?

- (a) i & ii
- (b) i & iii
- (c) ii & iii
- (d) i, ii & iii

14. Who is the father of Genetics?

- (a) Johann Mendel
- (b) Carl Correns
- (c) Hugo de Vries
- (d) Erich Tschermak

15. Blastopore can be found in which stage of development?

- (a) Morula
- (b) Blastula
- (c) Gastrula
- (d) Blastocyst

16. Ventilation controlling center is present in which part of the brain?

- (a) Cerebrum
- (b) Thalamus
- (c) Cerebellum
- (d) Medula oblongata

17. The hormones related to the function of Kidney are—

- i. ADH
- ii. Aldosterone
- iii. Angiotensin

Which one is correct?

- (a) i & ii
- (b) i & iii
- (c) ii & iii
- (d) i, ii & iii

18. Inflammation of any part of ear due to infection is called—

- (a) Ethmoid sinusitis
- (b) Sphenoid sinusitis
- (c) Otitis media
- (d) Otitis

19. Which of the following secretes Heparin?

- (a) Monocyte
- (b) Neutrophil
- (c) Eosinophil
- (d) Basophil

20. ★ The function of liver is—

- (a) Production of Hormone
- (b) Production of Heat
- (c) Production of Haemoglobin
- (d) Breakdown of Plasma Protein

21. The salivary glands of human are—

- i. Parotid
- ii. Submandibular
- iii. Submaxillary

Which one is correct?

- (a) i & ii
- (b) i & iii
- (c) ii & iii
- (d) i, ii & iii

Read the following stem and answer the question no 22 and 23.

Robi loves to eat Rohu fish. One day he read the blood circulatory system of this fish. He came to know about a type of blood vessel which carries blood from ventral aorta to the gills.

22. Which of the following is the family of the fish of the stem?

- (a) Hydridae
- (b) Actinopterygii
- (c) Cyprinidae
- (d) Cypriniformes

23. The vessels which are mentioned in the stem—

- i. contain deoxygenated blood
- ii. are called afferent branchial arteries
- iii. are 8 in number

Which one is correct?

- (a) i & ii
- (b) i & iii
- (c) ii & iii
- (d) i, ii & iii

24. The normal locomotion of Hydra is—

- (a) Somersaulting
- (b) Looping
- (c) Gliding
- (d) Walking

25. How many inhalatory spiracles are present in a Grasshopper?

- (a) 4
- (b) 6
- (c) 8
- (d) 12

Ans.	1	(c)	2	(a)	3	(a)	4	(c)	5	(b)	6	(a)	7	(c)	8	(a)	9	(d)	10	(b)	11	(a)	12	(c)	13	(a)
	14	(a)	15	(c)	16	(d)	17	(d)	18	(d)	19	(d)	20	(a)	21	(d)	22	(c)	23	(d)	24	(a)	25	(c)		