

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. ►



- What is proventriculus? 1
- Write down accessory excretory organ of Grasshopper. 2
- How the images form in different light in above figure?
Explain. 3
- Describe the structure of the above figure. 4

2. ► 9:3:3:1

- Define subvital gene. 1

- b. Determine sex in case of class orthoptera and heteroptera. 2
- c. Explain the above ratio with the help of checker board? 3
- d. Is it possible to form 9.7 instead of above ratio? If possible, when and how? Analyze. 4

3. ► Dr. Akhi, in her class discuss about an organ of human body which control hearing and Maintain balance of the body.

- a. Define grey matter. 1
- b. What do you mean by false ribs? 2
- c. Describe the structure of the internal part of the mentioned organ. 3
- d. Why mentioned organ called as a hearing and equilibrium organ of the body? Analyze it. 4

4. ► A : Trachea, Pinna

B : Humerus

- a. Define arachnoids. 1
- b. Write down the name of tarsal bones. 2
- c. Describe the structure of the tissues which are responsible for the formation of the above organ of A. 3

- d. Which type of tissue is responsible for the formation of the above B? Describe the structure of that tissue in details. 4

5. ►



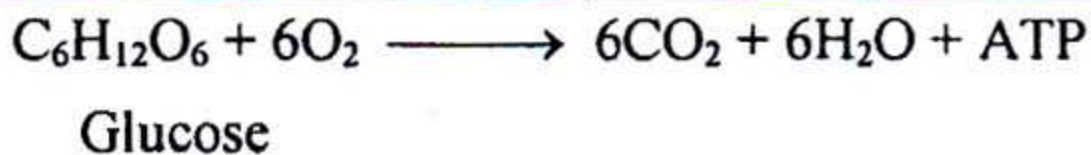
Fig-A



Fig-B

- a. What is Wirsung duct. 1
- b. Write down the chemical composition of Bile. 2
- c. What are the differences between figure A and B? Explain. 3
- d. Above organ A maintain a cycle in our body. Describe that cycle. 4

6. ★



- a. Define coronary atherroma. 1
- b. What do you mean by myocardial infarction? 2
- c. How the above gases enter and excrete from our body? Explain. 3

- d. Describe the system of the human body which is related with the above process. 4

7. ★

Gland
↓

(Ouctless) B ← → A (Ducted)

- a. What is epinephrine? 1
- b. Write down the name of endocrine gland of Grasshopper. 2
- c. Write down the principal gland of the mentioned B of the stem and its secreting hormones and their functions. 3
- d. Describe the structure and its role in digestion of the gland which act as both A and B in the mentioned stem. 4

8. ► Antibody $\xleftarrow{\text{Produce}}$ A $\xrightarrow{\text{C}}$ Phagocytosis
C C

- a. What is weberian ossicle? 1
- b. Write down the name of different sinus of human body? 2
- c. How the mentioned A destroy pathogen by using process B in the stem. 3
- d. Describe different types of the mentioned C in the stem. 4

Biology Second Paper

Creative Multiple Choice Questions

Marks — 25

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. **Heliozoa is the example of which type of symmetry?**

- (a) Spherical
- (b) Radial
- (c) Biradial
- (d) Bilateral

2. **Characteristics of Annelida**

- i. Circulatory system open
- ii. Circulatory system closed
- iii. Trochophore larva found

Which one is correct?

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



Answer question number 3 and 4 based on the above figure

3. **Name of the part marked A of the above figure is?**

- (a) Ventricle
- (b) Atrium
- (c) Sinus Venosus
- (d) Bulbus Arteriosus

4. **How many valves are found in above figure?**

- (a) 01
- (b) 02
- (c) 03
- (d) 04

5. **Which is the part of antenna of grasshopper?**

- (a) Pedicel
- (b) coxa
- (c) Tarsus
- (d) galea

6. **Which nerve control the movement of head and shoulder**

- (a) Hypoglossal
- (b) Vagus
- (c) Spinal Accessory
- (d) Glossopharyngeal

7. **Which cell produce Antibody**

- (a) B cell lymphocyte
- (b) T cell lymphocyte
- (c) Neutrophil
- (d) Monocyte

8. **Which hormone balance the Na⁺ and K⁺**

- (a) Aldosterone
- (b) Insulin
- (c) Adrenalin
- (d) Nor-Adrenalin

9. **Nature of Oculomotor nerve is?**

- (a) Sensory
- (b) Motor
- (c) Mixed
- (d) Voluntary

10. **Third ventricle attached with fourth ventricle by the**

- (a) Foramen of monro
- (b) Cerebral aqueduct
- (c) Cerebral cortex
- (d) Pons

11. **Which is not related with female?**

- (a) Androgen
- (b) Progesterone
- (c) Estrogen
- (d) Relaxin

12. **Function of skeletal system is—**

- i. Taking part in hearing
- ii. Taking part in excretion
- iii. Formation of blood cells

Which one is correct?

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

13. **Sternum consist of—**

- i. manubrium
- ii. clavicle
- iii. xyphoid process

Which one is correct?

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

14. **Which is the facial bone?**

- (a) Frontal
- (b) Parietal
- (c) Vomer
- (d) Temporal

15. Which is phenotypic ratio of lost cross?

- (a) 3:1 (b) 1:1
(c) 1:2:1 (d) 2:1

16. In case of thoracic case—

- i. 11th & 12th pair of ribs called floating ribs
ii. Last 5 pair is called false ribs
iii. Upper end of sternum is cone shaped called manubrium

Which one is correct?

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

17. Mesoglea is formed in which stage of life cycle in Hydra?

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

18. Which of the following plays important role in primary stage of immunity?

- i. Skin
ii. Digestive acid
iii. Enzyme

Which one is correct?

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

19. How many number of bones are found in Axial skeleton?

- (a) 80
(b) 106
(c) 120
(d) 126

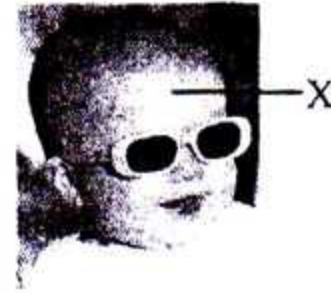
20. During somersaulting movement of Hydra occurs—

- i. tentacles and pedicel disc alternately turns downward towards the movement
ii. loop forms twice towards movement for every step
iii. speed of locomotion is comparatively slow

Which one is correct?

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

21. ★



What is the name of x marked bones?

- (a) Temporal
(b) Frontal
(c) Parietal
(d) Occipital

22. How many number of sex linked gene are found

- (a) 60 (b) 50
(c) 40 (d) 70

23. How many number Retinular cell are found in a ommatidium

- (a) 7-8
(b) 6-7
(c) 8-9
(d) 10-11

24. In urine

- i. pH value is 7.3-7.4
ii. Specific gravity 1.01-1.50
iii. The amount of Urea is 2%

Which one is correct?

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

25. pH value of bite is

- (a) 7.6-8.5
(b) 6.6-5.3
(c) 7.3-7.4
(d) 6.4-6.5

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