

Chattogram Board 2017

Biology

Subject Code

1	3	8
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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 attentively and answer any five of the following questions.]

1. ►

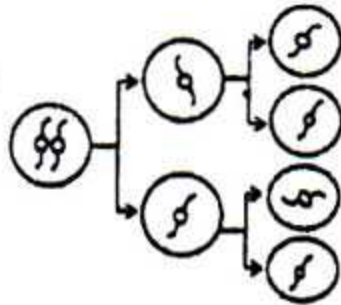


Fig : E

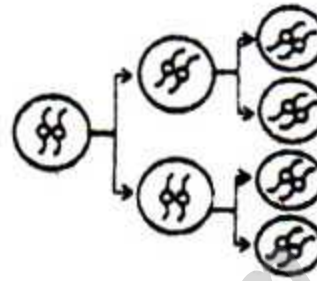


Fig : F

- a. What is Histology? 1
- b. Write the role of synapse to carry nervous stimulation. 2
- c. What will happen when the division of Figure-F is uncontrolled? Explain. 3
- d. Give the comparative analysis between the division of Figure E and F. 4

2. ★ Proma is tired. Giving a piece of mango her mother said, "Eat it, then you will get energy." Then Proma asked mother, "How energy is stored in mango and how I shall get energy by eating it?" Mother replied, "It is a bio-chemical process where light energy is converted into chemical energy in the first stage. But an opposite process will be occurred in your body which is very important for all living being."

- a. What is macronutrient? 1
- b. What do you understand by Roughage? 2
- c. Explain the first stage of Proma's mother's first mentioned process in stem. 3

- d. Why the process is important for all living being which occurred in Proma's body? Analyse it. 4
3. ► The secreted juice of two digestive glands turn into simple particles from complex food in the part 'A' of the digestive tube of human body. To reach towards the body cell of this simple particles blood and lymph play role.
- a. What is Goiter? 1
- b. What do you understand by bone? 2
- c. How does food turn into simple particles in the part 'A' of the discussed tube? Explain. 3
- d. That simple particles are essential for the structure and function of body. — Analyse it. 4

4. ►

Right K	Left L	Lung
M	P	
N	O	Heart

- a. What is Tendon? 1
- b. What do you understand by synovial joint? 2
- c. Explain the blood flow from part 'M' to parts 'k' and 'L'. 3
- d. Analyse the process of the 'M, N, O, P' marked organ to separate oxygenated and carbon-dioxide enriched blood. 4

5. ►

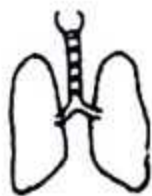


Fig : Q



Fig : R

- a. What is prokariotic cell? 1
- b. Why is breathing problem may develop if someone sleeps under a big tree at night? Explain. 2
- c. Explain the functional Unit of the marked 'R' organ in the stem. 3
- d. "Though the both organs of the stem play the role in the blood purification, they are involved in different system." — Analyse it. 4

6. ★

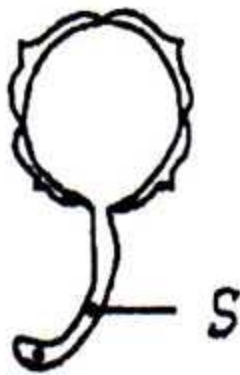


Fig : X

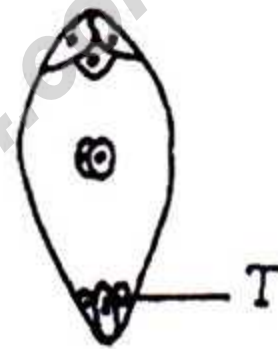


Fig : Y

- a. What is Georeception? 1
 - b. Explain the use of feromen to control the harmful insects. 2
 - c. Explain the structure of Figure-Y. 3
 - d. Analyse the significance of later condition after meeting of the 'S' and 'T'. 4
7. ► Sifat is impressed by observing different incidents of biodiversity. These kind of two incidents are given below :

Incident-1 : Though a fish lays a lot of eggs, the number of fish becomes less in the river.

Incident-2 : Many dogs are transferred to Nijhum Island from the main central part of Bangladesh through fishermen. The dogs of Nijhum Island have become much wilder than the dogs of central part.

- What is gene? 1
- Why DNA test is required? Explain. 2
- Explain the cause of Incident-1 in the light of the theory of evolution. 3
- Evaluate the incident-2 according to the organic evolution. 4

8. ★



Fig : X

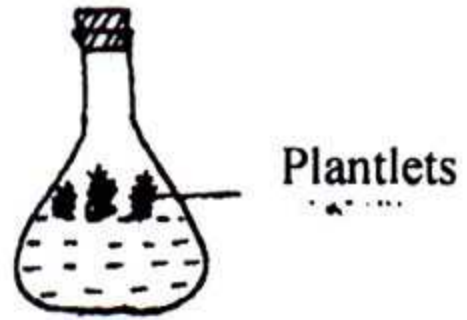


Fig : Y

- What is producer? 1
- What is the cause of Bacteria's involvement into Kingdom Monera? Explain. 2
- Describe the procedure of Figure-X. 3
- Analyse the importance of the technology of the mentioned Figure-Y. 4

Time — 25 minutes

Creative Multiple Choice Questions

Full marks — 25

[NB. 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 the Multiple Choice Questions Examination.]

1. **★ Iron (Fe) is absent in which of the following component?**

- (a) Red leaves (b) Yolk of egg
(c) Arum leaves (d) Liver

2. **When diaphragm contracts —**

- i. it goes upwards
ii. it goes downwards
iii. the volume of the thoracic cavity increases

Which one is correct?

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

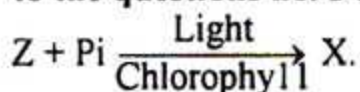
3. **Which one is the main element of chlorophyll?**

- (a) Zn (b) Fe
(c) Na (d) Mg

4. **★ Which hormone helps in growth of beard?**

- (a) Oestrogen (b) Thyroxine
(c) Testosterone (d) Relaxin

Look at the following reaction and answer to the questions no. 5 and 6 :—



5. **Which one of the following is called high energy rich compound?**

- (a) X (b) Pi
(c) Z (d) Chlorophyll

6. **If the above mentioned process does not occur —**

- i. it will create a natural forest
ii. human civilization will face destruction
iii. living world will be extinct

Which one is correct?

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

7. **Which colour of the colourblindness is called the universal colourblindness?**

- (a) Red-Green (b) Red-Blue
(c) Red-Skyblue (d) Red-Violet

8. **In case of the organism of protista kingdom, the reproduction process is —**

- i. conjugation ii. mitosis
iii. meiosis

Which one is correct?

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

9. **★ Which one of the following virus helps to create cancer cell?**

- (a) HIV (b) Papilloma
(c) Rabies (d) Rubella

10. **Which one of the following is formed by the extension of the apex of renal pyramid?**

- (a) Glomerulus (b) Capsule
(c) Collecting tubule (d) Papilla

11. **The fluid of the bone joint formed of which element?**

- (a) Lipid (b) Carbohydrate
(c) Vitamin (d) Protein

12. **From which vaccine of hepatitis-B virus produced?**

- (a) Protozoa (b) Virus
(c) Yeast (d) Bacteria

13. **Mainly in which form CO₂ is transported through blood?**

- (a) As bicarbonate form
(b) As Carbomino compound form
(c) As Carbonic acid form
(d) As Carbon and Oxygen form

14. **★ Preventive measures of lung cancer is —**

- i. abstaining from smoking and drinking alcohol
ii. taking excess fatty food
iii. regular exercise

Which one is correct?

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

15. **In which book Linnaeus include the rules of binomial nomenclature?**

- (a) De Planties
(b) Species Plantarum
(c) Systema Nature
(d) Phylogenic Taxonomy

16. Ascent of cell sap happens through which part?

- (a) Vessel
- (b) Tracheid
- (c) Sieve tube
- (d) Phloem fiber

Read the following stem and answer to the questions no. 17 and 18 :—

Shelly got married for 6 years. Till now they gave birth 3 daughters for the desire of son. Due to this her husband and mother-in-law always make her guilty. After that the specialized doctor explained the correct causes of sex determination.

17. Who is the real responsible person for the above mentioned problem?

- (a) Shelly herself
- (b) Husband of Shelly
- (c) Mother-in-law of her
- (d) Fortune

18. If Shelly gives birth to male baby —

- i. the fertilized zygote will be $\begin{pmatrix} 44 \\ + \\ XY \end{pmatrix}$
- ii. the sperm with 'X' chromosome of Shelly's husband will take part in fertilization
- iii. the sperm with 'Y' chromosome of Shelly's husband will take part in fertilization

Which one is correct?

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

19. ★ Which one is formed by a bundle of nerve fibres?

- (a) Cerebellum
- (b) Pons
- (c) Cerebrum
- (d) Medulla oblongata

20. In food preservation the authorized chemical substance is —

- i. Sodium bisulphate
- ii. D.D.T
- iii. Calcium apernate

Which one is correct?

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

Look at the following stem and answer to the questions no. 21 and 22 :—

Name	Tonmoy	Moumi	Salam	Dalia
Blood group	A	B	AB	O

21. Tonmoy can donate blood to which person?

- (a) To Moumi
- (b) To Salam
- (c) To Dalia
- (d) To all

22. The correct information for all blood is —

- i. a and b antibody present in the plasma of Dalia
- ii. Moumi can receive the blood of Dalia
- iii. Salam can donate blood to Tonmoy

Which one is correct?

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

23. ★ Usually digestion does not occur in stomach —

- i. carbohydrate type of food
- ii. protein type of food
- iii. fat type of food

Which one is correct?

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

24. The modern process of removal of the stone of kidney is —

- i. ureteroscopic process
- ii. ultrasonic lithotripsy
- iii. surgical operation

Which one is correct?

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

25. ★ What is the BMI of a person whose height is 1.50 m and weight 50 kg?

- (a) 22.22
- (b) 24.20
- (c) 26.22
- (d) 28.20

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