BANKIM SARDAR COLLEGE

Part – I (1+1+1) Examination 2020

B.Sc. (Honours)

Subject: Zoology

Paper: I+II

Group: (1+2)

Time: 2 Hours **Full Marks: 25+25 = 50**

(Answer each group in separate Answer-Sheets)

Group: 1

Paper -I (F.M-25)

Paper: IA (F.M-12.5)

(Answer in separate Answer-Sheets)

Answer any TWO Questions from Question 1 to 4. Question 5 is compulsory.

1. (a) Mention the important features of Syconoid type of Canal system in Porifera.
   (b) What is Metamerism?

3+2=5

2. (a) Mention four diagnostic features of Class Insecta or Hexapoda. Provide two examples.
   (b) What do you mean by water vascular system? Give example.

3+2=5

3. (a) Briefly describe the accessory respiratory organ in *Heteropneustes fossilis*.
   (b) What is 'Wheel organ'? Mention its function.

3+2=5

4. (a) Distinguish between horn and antlers.
   (b) What is Paedomorphosis? Provide example.

3+2=5

5. Compulsory Question 2.5 × 1 = 2.5

(I) Briefly point out the conservation strategies applied for protecting Coral reef from extinction risk.

OR

(II) Distinguish between poisonous and non-poisonous snake.

Paper: IB (F.M-12.5)
(Answer in separate Answer-Sheets)

Answer any TWO Questions from Question 6 to 9. Question 10 is compulsory.

6. (a) Briefly state the principles of Phase contrast microscope.
   (b) Mention four significant functions of plasma membrane.

3+2=5

7. (a) Briefly point out the important functions of Endoplasmic reticulum.
   (b) What is symbiont hypothesis of Mitochondrial origin?

3+2=5

8. (a) Mention the characteristic features of Polytene chromososme.
   (b) What do you mean by dosage compensation?

3+2=5

9. (a) What is multiple allele? Provide example.
   (b) What do you mean by semiconservative mode of replication?

3+2=5

10. Compulsory Question **2.5 × 1 = 2.5**

(I) Mention the significance of kappa particle in *Paramoecium sp.*

OR

(II) Write a short note on Turner's syndrome.

Group: 2
Paper-II (F.M-25)

Paper: IIA (F.M-12.5)
(Answer in separate Answer-Sheets)

Answer any TWO Questions from Question 11 to 14. Question 15 is compulsory.

11. (a) Briefly describe the energy generation phase of Glycolysis.
    (b) What is β oxidation of fatty acid?

3+2=5

12. (a) Write a short note on Haldane effect.
    (b) What is Depolarization?

3+2=5

13. (a) Write down different types of cleavage on the basis of cleavage plain.
    (b) What do you mean by fate map?

3+2=5

14. (a) Briefly describe the characteristic features of Embryonic stem cell.
    (b) What is Epiboly?

3+2=5

15. Compulsory Question **2.5 × 1 = 2.5**

(I) Write a short note on Chloride shift.

OR

(II) Write a short note on Bi-discoidal placenta with suitable diagram.

Paper: IIB (F.M-12.5)
(Answer in separate Answer-Sheets)

Answer any TWO Questions from Question 16 to 19. Question 20 is compulsory.

16. (a) Draw a diagram of digestive system of Cockroach.
    (b) Label its important parts correctly.

3+2=5

17. (a) Write down the Lowry's method of total estimation of protein excluding standard curve preparation.
    (b) State the identifying features of Metaphase II stage from squash preparation of male grasshopper's testes.

3+2=5

18. (a) Draw a diagram of female reproductive system of *Periplaneta sp.*
    (b) Label its important parts correctly.

3+2=5

19. (a) Write down the identifying features of 48 hours whole mount embryo of Chick.
    (b) Mention salient features of Axis vertebra of *Cavia sp.*

3+2=5

20. Compulsory Question **2.5 × 1 = 2.5**

(I) Draw a labelled diagram of Maxilla and Mandible of Cockroach.

OR

(II) State the identifying features of larval form of Nauplius.