

BSR/74/15

2016

0007 ZOOLOGY

SECOND PAPER

Full Marks : 200

Time : 3 hours

The figures in the margin indicate full marks
for the questions

GROUP—A

(Marks : 100)

Answer Question No. 1 and any **three** from the rest

1. Answer the following questions in brief (any
five) : $8 \times 5 = 40$

(a) What are the three components of the
endomembrane system? How do they
communicate with each other? $4+4=8$

(b) Describe chemical properties of
protoplasm. 8

(c) How many different forms of lysosomes
may be found in cells? What are the
roles of these different types? Explain.
 $4+4=8$

(d) Describe with suitable diagrams, the
prophase-I of meiotic cell division. $6+2=8$

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(Turn Over)

(2)

- (e) Explain with suitable examples, Mendel's principle of independent assortment. 8
- (f) How would you justify that Golgi components are dynamic in nature? 8
- (g) Compare between the structures of Prokaryotic gene and Eukaryotic gene. 4+4=8
- (h) Discuss anatomical evidences of evolution. 8

2. Cell membrane is 'protein iceberg in a sea of lipids'. Discuss. Enumerate various functions of cell membrane. 12+8=20

3. Describe the mechanism of crossing-over and write about its significance. 16+4=20

4. Discuss the mechanism of fossil formation. Explain how the age of fossil is determined. Write the significance of fossil study. 10+6+4=20

5. Describe the Watson and Crick model of DNA structure. What are different types of RNAs found in the cell? Write the functional significance of DNA and RNA in protein synthesis. 9+3+8=20

6. Describe Lamarckism and its drawbacks. 12+8=20

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(Continued)

(3)

GROUP—B

(Marks : 100)

Answer any **five** questions

7. What are enzymes? How do you differentiate between enzyme hormone and an ordinary catalyst? Classify enzymes and highlight on the factors of enzyme activity. 4+6+10=20
8. Classify animals on the basis of type of nitrogenous products eliminated from their bodies. Write an account on the mechanism of urine formation in mammals. 6+14=20
9. Describe the types of placenta in mammals with examples. 20
10. Write about the hormones of pituitary gland and their functions. 8+12=20
11. Describe with the help of diagrams various types of cleavage found in vertebrates on the basis of distribution of yolk. Discuss the important features of cleavage. 16+4=20

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(Turn Over)

12. Write short notes on the following (any four) :

5×4=20

- (a) Biological importance of proteins
- (b) Blood groups
- (c) Species and Taxon
- (d) Gametogenesis
- (e) Discontinuous distribution
- (f) Phospholipids
