

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Differentiate the prokaryotic and Eukaryotic cell.  
Or  
(b) Explain the structure and application of Electron microscope.
17. (a) Explain the stages of Kreb's cycle.  
Or  
(b) Explain the structure and functions of Ribosomes.
18. (a) Describe the structure of Giant chromosome.  
Or  
(b) Describe the structure and function of nucleus.
19. (a) Explain the DNA replication.  
Or  
(b) Explain lac operon.
20. (a) Explain Mitotic cell division.  
Or  
(b) Explain polymorphism of lysosomes.

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SMZO 31

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2019.

Third Semester

Zoology — Main

CELL AND MOLECULAR BIOLOGY

(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

- Which of the following is absent in prokaryotic cell?  
(a) plasmid  
(b) cell membrane  
(c) nuclear membrane  
(d) ribosome
- All the followings are components of compound microscope except  
(a) stage clips (b) fine adjustment  
(c) eye piece (d) electron gun

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

3. Protein synthetic factories of the cell
  - (a) Ribosome
  - (b) Golgi bodies
  - (c) Nucleus
  - (d) Lysosome
4. Respiratory centre of the cells are
  - (a) Lungs
  - (b) Nucleus
  - (c) Mitochondria
  - (d) Ribosomes
5. Enzyme used to join DNA fragments
  - (a) DNA ligase
  - (b) polymerases
  - (c) Nucleases
  - (d) Lipase
6. In RNA thymine is replaced by
  - (a) Adenine
  - (b) Guanine
  - (c) Cytosine
  - (d) Uracil
7. Nucleus first discovered by
  - (a) Robert Hook
  - (b) Robert Cliv
  - (c) Robert Merin
  - (d) Robert Brown
8. Autosomes of human cell is
  - (a) 44
  - (b) 46
  - (c) 48
  - (d) 42
9. Crossing over takes place in the following stag
  - (a) Leptotene
  - (b) Pachytene
  - (c) Zygotene
  - (d) Diplotene
10. Suicidal bags of the cells are
  - (a) Ribosomes
  - (b) Lysosomes
  - (c) Golgibodies
  - (d) Nucleus

11. (a) Explain ultrastructure of Animal cell.

Or

- (b) Explain different types of stains.

12. (a) Explain Rough Endoplasmic reticulum.

Or

- (b) Write the functions of Golgibodies.

13. (a) Explain types of Carcinogenesis.

Or

- (b) Write the types of chromosomes based on position of centromere.

14. (a) Explain the Watson and crick model of DNA.

Or

- (b) Explain the clover leaf model of tRNA.

15. (a) Write the significance of Meiosis.

Or

- (b) Explain the Triplet codon.