

SH-II/Zoology/202/C-4(T4)/19

B.Sc. 2nd Semester (Honours) Examination, 2019

ZOOLOGY

(Cell Biology)

Paper : 202/C-4(T4)

Course ID : 22612

Time : 1 Hour 15 Minutes

Full Marks : 25

The figures in the right hand side margin indicate marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

- 1. Answer any five questions:** 1×5=5
- (a) Name the types of RNA which is synthesized by Nucleolus.
 - (b) What do you mean by “second messenger”?
 - (c) Mention one advantage and one disadvantage of meiotic cell division.
 - (d) Write two important functions of “gap junction”.
 - (e) Define “suicidal bag”.
 - (f) What is “giant chromosome”?
 - (g) What is “signal sequence”?
 - (h) What do you mean by dysplasia?
- 2. Answer any two questions:** 5×2=10
- (a) With the help of a flow chart explain the extrinsic pathway of apoptosis. What is G₀ stage of cell division. 4+1=5
 - (b) “Cytoskeleton is the driving force behind functioning of cell”— Justify the statement. 5
 - (c) Briefly explain the role of cholesterol in maintaining the plasma membrane structure. What is the full form of GPCR. 4+1=5
 - (d) What are uniport, symport and antiport? What is “flip flop movement”? 3+2=5

3. Answer *any one* question:

10×1=10

- (a) What are sarcoma and carcinoma? Give four differences between the cancer cell and normal cell. Elaborate the relationship between t (9, 22) (q³², q¹¹) *ber-*abl** fusion gene and CML in human. 2+2+6=10
 - (b) Write down the various check points in cell cycle. State the role of cyclin dependent kinase (CDK) and cyclin dependent kinase complex (CDKs) in cell cycle regulation. 2+8=10
 - (c) Differentiate between antioncogene and oncogene. Briefly describe the RAS protein mediated signal transduction with suitable instructions. “ Origin of cancer is a multi-step process” — Justify the statement with suitable example. 10
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