

2018

2nd Semester

ZOOLOGY

PAPER—C4T

(Honours)

Full Marks : 40

Time : 2 Hours

The figures in the margin indicate full marks.

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

Illustrate the answers wherever necessary.

1. Answer any five Questions : 5×2

- (a) What do you mean by switch protein ?
- (b) What is nuclear localization signal (NLS) ?
- (c) What do you understand by "endosymbiont hypothesis" of organellar origin ?

- (d) How phosphorylation event activate cyclin & cyclin dependent kinase complex ?
- (e) State the functions of dynein and kinesin.
- (f) What are the difference between constitutive secretory pathway and regulated secretory pathway ?
- (g) State the significance of prophase-I of meiosis.
- (h) Write a short note on prion.

2. Answer any *four* Questions : 4×5

- (a) Give a brief account of protein translocation through endoplasmic reticulum. 5
- (b) What do you mean by cell cycle check point ? State the role of p53 in cell cycle regulation. 2+3
- (c) (i) What are the major components of extracellular matrix ? 2
(ii) Where do you find fibronectin ? State its function. 1+2
- (d) What is nucleosome ? What is solenoid structure of chromatin ? Describe the different level of packaging of eukaryotic Chromatin. 1+2+3

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(Continued)

- (e) (i) Compare between apoptosis and necrosis. 3+2
(ii) What are aquaporins ? 3+2
- (f) Write a short note on cyclin dependent kinase. 5

3. Answer any *one* Question : 1×10

- (a) What do you mean by fluidity of a membrane ? Describe with labelled diagram, the ultrastructure and composition of plasma membrane with special reference to fluid mosaic model. 2+2+6
- (b) (i) Describe with labelled sketches, the structural organization of G-protein coupled receptors mentioning its ligand binding and G-protein interaction sites.
(ii) Elucidate the mechanism of c-AMP formation when signal molecules bind with GPCR. (3+2)+5

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(Turn Over)