Five Year Integrated M.Sc. Examination, 2017

Semester - II

Course: LS-1-2-1

(Cellular Organization)

Time: Three Hours **Full Marks: 60**

Questions are of value as indicated in the margin.
Answer ***Question No.1*** and ***any two*** from the ***Question No. 2 to 4***
and another ***three*** from ***Question No. 5 to 8***.

1. Answer ***any ten*** of the following: 2x10=20
   a) Integral and peripheral membrane proteins
   b) Facilitated diffusion
   c) Role of Golgi complex in exocytosis
   d) Function of osmosis in plant cells
   e) What is the name of first check point entering in S cycle and mention its significance.
   f) What is thymidine block technique?
   g) Role of microtubule during Anaphase A and Anaphase B.
   h) What is Emerson enhancement effect?
   i) Write about Q-cycle during electron transport system.
   j) What is citrullin? Which aminoacid is the precursor of citrullin?
   k) What are the two classes of bacterial transposons and how are they different?
   l) What are the different phases of bacterial growth?

2. Describe the mechanism of active transport of Na^+ and K^+ across the plasma membrane. 5

3. Describe the process of glycosylation of protein in the lumen of ER. 5

4. What do you mean by Binding Change Model (Paul Boyer) of oxidative phosphorylation? 5

5. Give an illustrated account of the Fluid Mosaic Model of Plasma Membrane. 10

6. Briefly describe the specific features of different divisional stages of mitosis with suitable diagram. 10

7. a) What is S-state mechanism?
   b) Describe non-cyclic photophosphorylation in higher plants 2+8=10

8. a) Describe in detail the significance of attenuator in *trp* operon with its mechanism of action.
   b) Write down the differences between euchromatin and heterochromatin.
   c) What are core histones and name them? 5+3+2=10

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