HEF-003-1141001 Seat No. _____

M. Sc. (Botany) (Sem. I) (CBCS) (W.E.F.-2016) Examination

November / December - 2017

BOT - 101 : Cell Biology

Faculty Code : 003
Subject Code : 1141001

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 Answer the following : (any **seven**) **7×2=14**

(a) What are the components of GERL system ?

(b) What are the cellular organelles ?

(c) Write the chemical nature of nucleus.

(d) What are the structural differences between flagella and cilia ?

(e) Write the function of chloroplast.

(f) Define the symport and antiport.

(g) What is autocrine and paracrine signaling ?

(h) Why cell commit suicide in the apoptosis process ?

(i) What are Fas and TNF receptors ?

(j) What is proton pump ? Write its function.

2 Answer the following : (any two) **2×7=14**

(a) Briefly describe the major events in cell cycle.

(b) Discuss the structure and function of nucleolus.

(c) Give a comparative statement of polytene and lampbrush chromosomes.

3 Answer the following : **2×7=14**

(a) Write a detailed in functions of mitochondria.

(b) Describe the structure, chemical nature and functions of peroxisomes.

OR

3 Answer the following : **2×7=14**

(a) Explain the transport process across cell membrane.

(b) Write short note on cytoskeleton.

4 Answer the following : **2×7=14**

(a) Describe the detailed ultrastructure and functions of the microtubules.

(b) Give a detailed account of cell adhesion.

5 Write the short on any two of the following : **2×7=14**

(a) Apoptosis

(b) Cellular endocytosis

(c) G-protein

(d) Cell- cell communication.
