SH-III/MCB-302-C-6/19

B.Sc. 3rd Semester (Honours) Examination, 2019-20

MICROBIOLOGY

Course ID : 32212 **Course Code : SH/MCB-302-C-6**

Course Title: Cell Biology

Time: 1 Hour 15 Minutes **Full Marks: 25**

The figures in the right hand side margin indicate full marks.

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

1. Answer *any five* questions of the following: 1×5=5

(a) Define cell signalling. Name two neurotransmitters.

(b) Mention the role of D vitamins and calcium in prevention of cancer.

(c) What is hopanoid? Where does it found?

(d) Define Phagocytosis and Pinocytosis.

(e) What is the role of P^{53} gene in cell cycle control?

(f) What is protein glycosylation?

(g) Define apoptosis.

(h) What is secondary lysosome?

2. Answer *any two* of the following: 5×2=10

(a) Describe the activation process of receptor tyrosine kinase. 5

(b) Draw the ultrastructure of flagella of prokaryotes with labelled diagram. Mention the two functions of pili. 4+1=5

(c) Describe the role of tumor suppressive and proto-oncogenes in cancer formation. 2½+2½=5

(d) Write a short note on the role of endoplasmic reticulum with special emphasis and detoxification and protein transport.

3. Answer *any one* of the following: 10×1=10

(a) Describe the structure of nuclear pore complex with neat sketch and mention how it regulates the movement of bio-molecules between nucleus and cytoplasm. 6+4=10

(b) Describe the fluid mosaic model of plasma membrane with neat sketch. Mention different functions of plasma membrane. 6+4=10

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