



# Sanjay Ghodawat University, Kolhapur

2018-19

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

FY B. Tech

FYT 116

Dec 2018

School of Technology

Biology for Engineers

End Semester Examination (ESE)

Semester II

Max Marks: 100

Time: 3 Hrs.

- Instructions for Students:**
- 1) All questions are compulsory.
  - 2) Diagrams must be neatly labeled, wherever necessary.

	Marks	CO's
<b>Q.1) Answer the following questions.</b>	<b>(40)</b>	
<b>A) Multiple choice questions. (Two marks each)</b>	<b>(20)</b>	
i. The structural and functional unit of life is called _____?		(CO1)
a) Nucleus	b) Carbohydrate	
c) DNA	d) Cell	
ii. _____ cell organelles contain hydrolytic enzymes?		(CO1)
a) Plastids	b) Lysosomes	
c) Ribosomes	d) Cell wall	
iii. The most abundant protein in the extra-cellular matrix of animal tissue is _____?		(CO2)
a) Keratin	b) Myosin	
c) Fibronectin	d) Collagen	
iv. The mechanism of engulfing toxic material by cells is called as _____?		(CO1)
a) Endocytosis	b) Pinocytosis	
c) Phagocytosis	d) Exo-osmosis	
v. _____ is also known as the Bacterial motor?		(CO3)
a) Flagellin	b) Flagella	
c) Pili	d) Villi	

vi. Spontaneous reaction to any stimulus is called as \_\_\_\_\_? (CO4)

- a) Reflex action                      b) Thermal motion
- c) Action potential                  d) Nerst potential

vii. Based on differentiation, stem cells are classified into \_\_\_\_\_? (CO3)

- a) Pluripotent                          b) Totipotent
- c) Unipotent                           d) All of the above

viii. \_\_\_\_\_ observed and coined the term "Cell"? (CO1)

- a) Robert Koch                        b) Robert Hooke
- c) Roberto Brown                      d) Robert Langdon

ix. Anabolism and Catabolism jointly define the term \_\_\_\_\_? (CO2)

- a) Response to stimulus              b) Evolution
- c) Metabolism                          d) Respiration

x. Acetylcholine is broken down by the enzyme named \_\_\_\_\_? (CO4)

- a) Acetylcholine synthase            b) Acetylcholine hydrolase.
- c) Acetylcholine esterase            d) Acetylcholine lyase

B) Differentiate between Transcription and Translation. (20) (CO2)

**OR**

B). Write short notes on the following: (Any four) (20)

- i. Endoplasmic reticulum (CO1)
- ii. Neuron. (CO4)
- iii. Ribosomes (CO1)
- iv. Microstate (CO3)
- v. Plastids (CO1)
- vi. Simple microscope (CO2)

- Q.2). Answer in brief. (20)**
- A). Differentiate between Prokaryotic cell and eukaryotic cell. (10) (CO1)
- B). Briefly describe Neurotransmitters and their types? (10) (CO4)

**OR**

- B). Represent the following with a diagram. (10) (CO3)
- i). Synaptic gap. ii). Bacterial motor.

- Q.3). Explain the following in detail (Any four) (40)**
- A) Describe Extracellular matrix with its types. (10) (CO2)
- B) Explain Cell cycle. Write a note on mitotic and meiotic division with labeled diagrams. (10) (CO1)
- C) What is Protein conformation? Explain the types of protein conformations. (10) (CO3)
- D) Describe inertia of a bacterium. Throw light on vibrations of chemical bonds. (10) (CO4)
- E) What is Reflex arc? Explain the mechanism involved in the propagation of an electric signal. (10) (CO3)
- F) Write a detailed note on cell membrane and electric potentials in human body. (10) (CO4)

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