



Sanjay Ghodawat University, Kolhapur

2018-19

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

FY B. Tech

School of Technology

Semester II

FYT 116

Biology for Engineers

Max Marks: 100

Date/Day:

End Semester Examination (ESE)

Time: 3 Hrs.

Wednesday 22nd May 2019

OLD

10:30 to 1:30 pm

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

Marks CO's

Q.1) Answer the following questions.

(40)

A) Multiple choice questions. (Two marks each)

(20)

i. Spontaneous reaction to any stimulus is called as _____? (CO4)

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

ii. Based on differentiation, stem cells are classified into _____? (CO3)

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

iii. _____ observed and coined the term "Nucleus"? (CO1)

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

iv. Anabolism and Catabolism jointly define the term _____? (CO2)

- a) Response to stimulus b) metabolism
c) Adaptation d) Respiration

v. Acetylcholine is broken down by the enzyme named _____ (CO4)

as _____?

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

vi. The structural and functional unit of life is called _____? (CO1)

- a) Nucleus b) Cell
c) DNA d) Cell junction

vii. _____ cell organelles contain hydrolytic enzymes? (CO1)

- a) Plastids b) Lysosomes
c) Ribosomes d) Cell membrane

viii. The most abundant protein in the extra-cellular matrix of animal tissue is _____? (CO2)

- a) Thrombin b) Collagen
c) Fibronectin d) Actin

ix. The mechanism of engulfing toxic material by cells is called as _____? (CO1)

- a) Endocytosis b) Phagocytosis
c) Endocytosis d) Exo-osmosis

x. _____ is also known as the Bacterial motor? (CO3)

- a) Flagella b) Flagellin
c) Pilin d) Pili

B) Differentiate between

Plant cell and Animal cell (20) (CO2)

OR

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

- | | |
|-------------------------|-------|
| i. Lysosomes | (CO1) |
| ii. DNA | (CO4) |
| iii. Neuron | (CO1) |
| iv. Protein vibrations | (CO3) |
| v. Action potential | (CO1) |
| vi. Compound microscope | (CO2) |

Q.2). Answer in brief.

(20)

A). Differentiate between Mitosis and Meiosis.

(10) (CO1)

B). Briefly describe Neurons and their types?

(10) (CO4)

OR

B). Represent the following with a diagram.

(10) (CO3)

i). Animal cell. ii). Synaptic gap.

Q.3). Explain the following in detail (Any four)

(40)

✓ A) Define cell junctions. Describe the types of cell junctions.

(10) (CO2)

B) Describe cell cycle. Write a note on mitotic division.

with a labeled diagram.

(10) (CO1)

✓ C) What are proteins? Explain in detail the types of protein structures.

(10) (CO3)

D) What do you mean by protein vibrations?

Throw light on vibrations of chemical bonds.

(10) (CO4)

E) What is Reflex action? Explain the mechanism of action potential in a nerve cell.

(10) (CO3)

F) With the help of a neat labeled diagram write a detailed note

(10) (CO4)

on cell wall and its functions .
