F.Y.B.SC. SEM – I (CBCS - 2016 COURSE) : **WINTER - 2017**

SUBJECT: MICROBIOLOGY : INTRODUCTION TO MICROBIOLOGY

Day: Monday
Date: 30/10/2017

W-2017-0543

Time: 11.00 A.M. TO 02.00 PM
Max. Marks: 60

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat and labeled diagrams **WHEREVER** necessary.

Q.1 A) Attempt all of the following: **[06]**

a) _____ controls the intensity of light entering in microscope.

i) Iris diaphragm

ii) Mirror

iii) Condenser

iv) All of the above

b) In Gram staining, Gram's iodine acts as _____ **[06]**

i) Counter stain

ii) Primary stain

iii) Secondary stain

iv) Mordant

c) Basic unit of viral measurement is _____ **[06]**

i) Micrometer

ii) Nanometer

iii) Millimeter

iv) All of the above

d) Which scientist first disproved spontaneous generation by showing that maggots only appear on decaying meat that has been exposed to flies? **[06]**

i) Francesco Redi

ii) Joseph Lister

iii) Robert Hooke

iv) Robert Koch

e) What was the first virus known to cause disease? **[06]**

i) Polio virus

ii) Hepatitis virus

iii) Tobacco mosaic virus

iv) Potato blight virus

P.T.O.

f) The concept of putting microbes to work to clean up the environment is called_____ **[06]**

i) Bioremediation

ii) Pasteurization

iii) Eutrophication

iv) Fermentation

B) Define: **[06]**

i) Acidic stain

ii) Mordant

iii) Differential staining

iv) Resolving power

v) Ionic bond

vi) Buffer

Q.2 Attempt **ANY THREE** of the following: **[12]**

a) Enlist properties of algae
b) What is refractive index?
c) Give the important contribution of Antony van Leeuwenhoek
d) What is chemotherapy?

Q.3 Attempt **ANY FOUR** of the following: **[12]**

a) What are hydrogen bonds? Give example.
b) Explain any one method of cell wall staining
c) Give principle and applications of fluorescence microscope.
d) Draw structure of a disaccharide. Give example.
e) Explain the concept of genetic engineering.

Q.4 Attempt **ANY TWO** of the following: **[12]**

a) Differentiate between compound light microscope and electron microscope.
b) Give contributions of different scientists in the development of vaccines.
c) What are synthesis reactions? Explain with examples

Q.5 Attempt **ANY TWO** of the following: **[12]**

a) Enlist important features of bacteria.
b) What are lipids? Give their functions.
c) Explain with a suitable diagram acid fast staining.

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