S.Y.B.SC. SEM – IV (CBCS - 2016 Course) : WINTER - 2018

SUBJECT: BOTANY: PLANT BIOTECHNOLOGY

Day: Monday | **W-2018-0730** | Time: 03.00 P.M. To 06.00 P.M

Date: 22/10/2018 | Max. Marks: 60

N.B:

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

Q.1 Answer **ANY TWO** of the following: **(12)**

a) Give sources and advantages of *SCP*

b) Describe activate sludge fermenter of waste water treatment

c) Explain chemical synthesis verses biological synthesis of nanomaterials.

Q.2 Attempt **ANY TWO** of the following **(12)**

a) Describe the scope and importance of biotechnology.

b) Give the application of tissue culture in argiculture.

c) Describe protein based nanoparticles.

Q.3 Attempt **ANY TWO** of the following **(12)**

a) Give products and bi-products of fermentation.

b) Describe mass cultivation of *Rhizobium.*

c) What is genetic engineering? Give properties of plasmid.

Q.4 Attempt **ANY THREE** of the following **(12)**

a) What are restriction enzymes? Give their brief account.

b) Give the requirement for the growth of *Spirullina.*

c) What is explant? Describe a method for obtaining explant.

d) Describe the petrocrops that you have studied.

Q.5 Attempt **ANY FOUR** of the following **(12)**

a) Give the uses of SCP of yeast.

b) Comment on importance of biological fuels.

c) Explain concept of environmental biotechnology.

d) Which are the process of anaerobic waste water treatment.

e) Application of *Azo-rhizo* fertilizer.

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