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AAN-454

Seat No. _____

B. Sc. (Sem. V) Examination

October / November - 2016

CC-I-7 : Biotechnology

(Bioprocess & Biochemical Engineering)

Time : **3** Hours] [Total Marks : **70**

1 MCQS : (all questions are compulsory) **15**

(1) Biosynthetic pathway is shutdown because of.....

(a) Over production of end product

(b) feed back inhibition

(c) Feed back repressor.

(d) All of above

(2) A culture system with constant environment maintain through continuous provision of nutrient and removal of broth is called...

(a) Batch system

(b) continuous system

(c) feed batch

(d) semicontinuous

(3) A better yield of product is controlled by..

(a) Culture condition

(b) optimum medium

(c) Genome of organism

(d) all of the above

(4) In growth curve, storage phase is equivalent to .....

(a) Lag phase

(b) late exponential phase

(c) stationary phase

(d) middle log phase

(5) Cryogenic storage method is also called

(a) Lyophilization

(b) nitrogen storage

(c) use of mineral oil

(d) storage over porceline beads

(6) Which of the following is incorrect ?

(a) sachharomyces ceravesiae : baker's yeast.

(b) Penicillium chrysogenum : Penicillin.

(c) Aspergillus niger :Citric acid

(d) Streptomyces griseus : Gluconic acid

(7) A steady state condition in continuous culture is describe by

(a) $\mu > D$

(b) $\mu < D$

(c) $\mu = D$

(d) $\mu - D$

(8) Which of the following is a primary metabolite ?

(a) Ethanol

(b) Penicillin

(c) vancomycin

(d) Erythromycin

(9) Which type of fermentation create CO_2 as a byproduct ?

(a) Fermentation

(b) ethanol

(c) lactic acid fermentation

(d) alcoholic fermentation

(10) In Plackett burman design ,there are ..... dummy variable

(a) 3

(b) 2

(c) 1

(d) 4

(11) What is del factor?

(12) Give a full form of ATCC.

(13) Define Screening.

(14) Which sources are present in corn steep liquor ?

(15) Draw a penicillin structure.

2 Give a short note on any **five** of the following : **25**

(1) Chemostat and Turbidostat.

(2) Aeration and agitation device.

(3) Inhibitor as a metabolic regulator.

(4) Secondary screening.

(5) Flow chart of downstream processing .

(6) Lyophilization.

(7) r-DNA technology for the improvement of secondary metabolite.

3 Give a detail note on any **three** of the following : **30**

(1) Batch culture kinetics.

(2) Airlift and deep jet fermentor.

(3) Raw materials used in fermentation media.

(4) Fermentation of penicillin.

(5) Improvement of primary metabolites by selecting induce mutant.
