PAP-003-001517

Seat No. _____

B. Sc. (Sem. V) (CBCS) Examination

October / November - 2018

BT-501 : Bioprocess & Biochemical Engineering

(Old Course)

Faculty Code : 003

Subject Code : 001517

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 Answer the following question in one word : **20**

(1) Mutation that occurs under artificial condition are called _____

(2) Antibiotic is _____ metabolites.

(3) In cryopreservation liquid N_2 temperature is _____.

(4) In primary screening which method used for antibiotic producers?

(5) Expand OTR.

(6) Write a name of KLa determination method.

(7) Write a role of sparger.

(8) Give the name of types of agitator.

(9) Cellulose is used as _____ source in fermentation media.

(10) Auxotroph grow on _____ media.

(11) Heat labile compounds are generally sterilized by _____.

(12) Which material is ideal for fermentor?

(13) In reverse phase chromatography stationary phase is _____ and mobile phase is _____.

(14) Penicillin was discovered by _____.

(15) Direct heat method is also called _____.

(16) Give the full form of HPLC.

(17) _____ is used in fermentor to prevent vortex formation.

(18) Give the full form of SSF.

(19) Fixed pore filter is called _____ filter.

(20) 5' bromo urecil is base analogue of _____.

2 (a) Write any three out of **six** : **6**

(1) Define primary and secondary screening.

(2) What is media optimization?

(3) What is fermentor?

(4) Write down the mode of action of penicillin.

(5) Define filtration and sterilization.

(6) Explain protected fermentation.

(b) Write any **three** out of **six** : **9**

(1) Write a note on lyophilization.

(2) Explain types of fermentation media.

(3) Write a note on aeration.

(4) Explain batch sterilization.

(5) Write a note on drying method.

(6) Properties of supporting matrix used for immobilization.

(c) Write any **two** out of five : **10**

(1) Explain the kinetics of continues fermentation.

(2) Explain spontaneous mutation.

(3) Write a note on air lift fermentor.

(4) Enlist and explain raw material used in the fermentation media.

(5) Explain the citric acid fermentation.

3 (a) Write any **three** out of six : **6**

(1) Explain Log phase.

(2) Write down the monod equation.

(3) Define mutation and mutant.

(4) What is crystallization?

(5) Define upstream and downstream process.

(6) Explain antifoam.

(b) Write any **three** out of six : **9**

(1) Write a note on agitation.

(2) Explain framshift mutation.

(3) Explain batch distillation.

(4) Define cell disruption and explain biological method.

(5) Explain dialysis.

(6) Write a note on turbidostate.

(c) Write any **two** out of five : **10**

(1) Explain automation.

(2) Write a note on carbon source.

(3) Explain fermentation economics.

(4) Explain kinetics of batch fermentation.

(5) Explain the fermentation process of alcohol.
