

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

**CLASS: BE
BRANCH: BIOTECHNOLOGY**

**SEMESTER: VI
SESSION : SP/2019**

SUBJECT : BT6021 BIOSEPARATION ENGG.

TIME: 1.5 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 30.
 2. Candidates may attempt for all 30 marks.
 3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. The missing data, if any, may be assumed suitably.
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| Q1 | (a) Comments on the process of flocculation. | [2] |
| | (b) Reveal the characteristics of fermentation aids. | [3] |
| Q2 | (a) Explain the significance of pressure drop in filtration process. | [2] |
| | (b) Calculate the angular velocity in rad/sec for cell biomass at a speed of 50000rpm in ultracentrifuge. | [3] |
| Q3 | (a) What do you mean by unit operations in bioseparation? | [2] |
| | (b) Describe in brief the role of enzymatic method of cell lysis. | [3] |
| Q4 | (a) Explain the significance of gravitation sedimentation. | [2] |
| | (b) Give an example of batch filter equipment with salient features. | [3] |
| Q5 | (a) Discuss the various factors responsible for filtration process. | [2] |
| | (b) Analyze the composition of prokaryotic and eukaryotic cell walls. | [3] |
| Q6 | (a) Write the equation for calculation of relative centrifugal force with different units. | [2] |
| | (b) Illustrate the role of basket centrifuge. | [3] |

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