

2020

MICROBIOLOGY — HONOURS — PRACTICAL

Paper : CC-12P

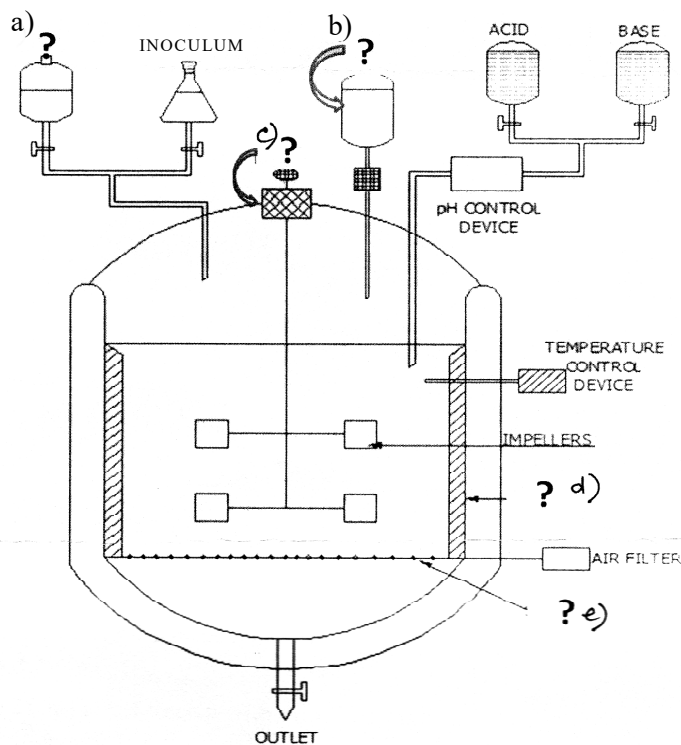
Full Marks : 30

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer all questions.

1. Identify the parts of the fermenter that have been marked in the provided image and mention their main function in the fermentation process. 1×5



2. In an experimental set up for ethanol production, 10 ml of 10% sugar containing media is inoculated with pure culture of *S. cerevisiae* along with a Durham's tube, for 48-72 hrs. under aerobic condition. Post incubation, gas formation is observed in Durham's tube but identification test for ethanol gives very poor result.
- (a) Explain the observation.
- (b) What changes can you make to improve production of ethanol? 2½×2

Please Turn Over

3. (a) Using the given data set, draw a standard curve for tyrosine.

5

μmol of Tyrosine	O.D. ₆₆₀
1	0.22
2	0.4
3	0.58
4	0.84
5	1.1

(b) Using the standard curve of tyrosine, calculate the protease activity for an unknown sample, in units/ml, where,

5

$$\text{O.D}_{660} = 0.65$$

$$\text{Volume of enzyme added} = 0.2 \text{ ml}$$

$$\text{Reaction time} = 10 \text{ mins}$$

$$\text{Total reaction volume} = 10 \text{ ml}$$

$$\text{Volume used for colorimetric determination} = 2 \text{ ml}$$

4. LNB + Viva.

10
