

2018

MICROBIOLOGY – HONOURS

Fourth Paper

Group A

Full Marks : 50

The figures in the margin indicate full marks.

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

Answer question no. 1 and any four from the rest

1. Answer the following : 2×5
- (a) What is grading of milk?
 - (b) What is wilt disease?
 - (c) Define fecal coliform.
 - (d) Define commensalism with example.
 - (e) What do you mean by Phyllosphere?
2. (a) How does a Trickling filter work?
- (b) Define hypertrophication and state the measures to control it.
- (c) Write the role of chlorine in disinfection.
- (d) How are the pathogens removed from waste water by tertiary treatment? 3+2+2+3
3. (a) Which factors determine the survival of microbes in air?
- (b) How can you differentiate between air borne yeast, fungal conidia and cocci?
- (c) What are bioaerosols? Which factors affect the survival of bioaerosols in air? 2+3+(2+3)
4. (a) Differentiate between determinate and indeterminate nodules.
- (b) Comment on the enzyme nitrogenase.
- (c) What are the differences between symbiotic and asymbiotic nitrogen fixation?
- (d) What are the advantages of biofertilizers over chemical fertilizer? 2+3+2+3

Please Turn Over

5. (a) What is necrosis?
(b) What are the symptoms produced in Red rot of sugarcane disease?
(c) Distinguish between bacterial blight and fungal blight disease.
(d) What do you mean by predisposing factors? Describe the predisposing factors of powdery mildew of cucurbit disease. 1+3+3+(1+2)
6. (a) State the cause and prevention of reddening of salted fish.
(b) What are the ways of egg preservation?
(c) What is food intoxication? How is it caused?
(d) What is meant by heat processing of container? 3+3+(1+1)+2
7. (a) Name any four homofermentative organisms of milk and state their uses.
(b) How fortified milk varies from homogenized milk?
(c) What is stormy fermentation? How is it caused?
(d) Why milk contains antibiotic? State its harmful effect. 4+2+(1+1)+(1+1)
8. (a) Briefly discuss the role of microorganisms in the phosphorus cycle.
(b) Name one bacterium each for nitrification and denitrification.
(c) What are biopesticides? Give explanation with an example.
(d) What are the merits and demerits of single cell protein? 3+2+2+3
9. Write short notes : 2 $\frac{1}{2}$ ×4
(a) Systemic fungicide
(b) Sulfur cycle
(c) Leg-haemoglobin
(d) Aseptic Packaging
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