

B.Sc. Semester I (Honours) Examination, 2018-19**MICROBIOLOGY****Course ID : 12211****Course Code : SHMCB-101C-1**

Course Title : Introduction to Microbiology and Microbial Diversity

Time: 1 Hour 15 Minutes**Full Marks: 25***The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer *any five* from the following: 1×5=5
- (a) Mention the contribution of Alexander Fleming in Microbiology.
 - (b) What is numerical aperture?
 - (c) What is heterocyst?
 - (d) What do you mean by fungi imperfecti?
 - (e) What is dolipore septum?
 - (f) Define viroids.
 - (g) Write down the limitation of Koch's postulate.
 - (h) What is 'eye spot'?
2. Answer *any two* from the following: 5×2=10
- (a) Briefly discuss about the economic importance of fungi in medical science and food industry. 3+2=5
 - (b) Write a short note on Pigments of algae. 5
 - (c) Mention the salient features of prion. Name two human diseases caused by prion. 3+2=5
 - (d) Write down the working principle of phase-contrast microscopy with ray diagram. 3+2=5
3. Answer *any one* from the following: 10×1=10
- (a) Give a detailed account on asexual reproduction of fungi. What do you mean by holocarpic and eucarpic fungi? 8+2=10
 - (b) Briefly describe the conjugation process in protozoa with suitable diagram. What is encystment of protozoa? 8+2=10
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B.Sc. Semester I (Honours) Examination, 2018-19**MICROBIOLOGY****Course ID : 12212****Course Code : SHMCB-102C-2(T)**

Course Title : Bacteriology

Time: 1 Hour 15 Minutes**Full Marks: 25***The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer *any five* of the following: 1×5=5
- (a) What is pseudomurein?
 - (b) Distinguish natural medium and synthetic medium.
 - (c) What is antiseptic?
 - (d) Name one pathogenic endospore former.
 - (e) What is sphaeroplast?
 - (f) Why do we use agar-agar in the medium?
 - (g) What is oligodynamic action?
 - (h) What are the functions of alcohol in Gram staining procedure?
2. Answer *any two* of the following: 5×2=10
- (a) What is plasmid? Describe different types of plasmid found in bacteria. 1+4=5
 - (b) Briefly describe endospore formation. What is the importance of endospore? 4+1=5
 - (c) Name two acid fast bacteria. How do you distinguish them from non-acid fast bacteria? 2+3=5
 - (d) “The mean generation time is the reciprocal of the mean growth rate constant” — Establish the data with suitable derivation. 5
3. Answer *any one* of the following: 10×1=10
- (a) Describe the four phases of bacterial growth curve and discuss the causes of each. What is generation time? 8+2=10
 - (b) Why do we need to control the growth of microorganisms? Discuss briefly about any two physical methods and any two chemical reagents, used for controlling the growth of microorganisms with suitable mode of action and application. 2+4+4=10
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