

(4).

Total Pages : 4

End Semester Examination of Semester-I, 2015

Subject : MICROBIOLOGY (HONS.) (UG)

Paper : I

Full Marks : 40

Time : 2 Hrs

The figures in the margin indicate the marks corresponding to the question.

Candidates are requested to give their answers in their own word as far as practicable.

Illustrate the answers wherever necessary.

Group A

Two questions of 10-marks are to be answered from a set of four (4) questions : 10x2=20

1. a) Mention the endosymbiotic theory of the origin of mitochondria.
- b) Compare the cell wall of gram (+ve) and gram (-ve) bacteria.
- c) Differentiate bili and timbriae on the basis of their structure & function.
- d) Mention the role of 'Mot' and 'Fli' Protein on flagellar movement. $2+3+2\frac{1}{2}+2\frac{1}{2}$

11. What is dikaryotization? Mention its significance.
 12. Why microorganisms are smaller in size?
 13. How fungal mycelium is stained?
 14. What is sterigma? Where is it found?
 15. Name two bacteria where murein is found to be absent.
 16. What is Agar Agar? Mention its source and chemical nature.
 17. What is mordant? Give example.
 18. Write the structure of monomeric unit at peptidoglycan.
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(2)

2. a) Differentiate resolution and magnification of a microscope. How can you improve resolution.
- b) Write short note on dark field microscope and phase contrast microscope.
- c) Explain why basic dyes are used more frequently than acidic dyes in bacterial staining.
- d) Write different types of light wave along with their wavelength and application. $2\frac{1}{2}+2\frac{1}{2}+2+3$
3. a) How do viruses recognize host cell at the time of infection?
- b) Compare between Bacteriophage replication and animal virus replication.
- c) What is base plate in a phage?
- d) Describe the morphological structure of TMV. $2+3+2+3$
4. a) Define resolving / power and numerical aperture of a microscope.
- b) Give an example of idioandrosporus species of Oedogonium. With a suitable word diagram show the life-cycle of idioandrosporous species of Oedogonium.
- c) What is pilin?
- d) Define single cell protein? $3+(1+3)+1+2$

(3)

Group B

Two questions of 5-marks are to be answered from a set of four (4) questions : $5 \times 2 = 10$

5. Describe the range of thallus structure found in Algae. 5
6. a) Describe the morphological structure of trophozoite of Giardia lamblia.
- b) Write about the etiology of the disease caused by Giardia. 3+2
7. a) Who shared the Nobel Prize with Watson and Crick? Write the contribution of that scientist on Double Helix model of DNA?
- b) Mention the Chemistry of acid fast staining. 3+2
8. a) Name one ssDNA virus and one dsRNA virus.
- b) Mention the contribution of Dr. Ananda Mohan Chakraborty in microbiology. 2+3

Group C

Five questions of 2-marks are to be answered from a set of ten (10) questions : $2 \times 5 = 10$

9. Write the importance of capsule in bacteria.
10. Explain why an endospore is not considered as a reproductive unit?