

- (i) Horizontal transmission
- (ii) Pandemic
- (iii) Germ-free animal
- (iv) Virulence

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 3382

I

Unique Paper Code : 2534001004

Name of the Paper : GE: Microbes in Health and Hygiene

Name of the Course : **Microbiology**

Semester : V

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll. No. on the top immediately on receipt of this question paper.
 2. Attempt **any five** questions.
 3. **All** questions carry equal marks.
 4. Attempt all parts of the question together.
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1. (a) Discuss the factors affecting the survival and colonization of microorganisms in gastrointestinal tract. (6)

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(b) Match the following: (6)

- | | |
|-----------------------------|-----------------------|
| (i) Typhoid | (a) Kala azar |
| (ii) Polio | (b) Rose spots |
| (iii) Rabies | (c) Rice-water stool |
| (iv) Zika | (d) Flaccid paralysis |
| (v) Cholera | (e) Hydrophobia |
| (vi) Visceral leishmaniasis | (f) Microcephaly |

2. (a) Describe *Caenorhabditis elegans* as animal model system for understanding human microbiome. Enlist its advantages and limitations. (6)
- (b) Give two examples each of the microflora of skin and upper respiratory tract. (4)
- (c) Expand the following terms (any 2) (1x2=2)
- STD, MDR and GRAS.

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3. Enlist the different techniques used to study the human microbiome. Describe any two techniques with their strengths and weaknesses. (3+9=12)
4. (a) Name the disease caused by HIV and why is it named so? Explain the transmission and control of HIV. (6)
- (b) Write a note on role of probiotic supplementation on disease management. (6)
5. (a) What are the transmission routes, symptoms and control methods for tuberculosis? (6)
- (b) What are the differences between probiotics, prebiotics, and synbiotics? Discuss with suitable examples. (6)
6. (a) Define phage therapy. Write its concept, applications and challenges. (9)
- (b) Explain the following terms (any 3) (1x3=3)

P.T.O.