

PE – 522
(574) M.SC. MICROBIOLOGY (FOURTH SEMESTER)
Examination JUNE- 2022
Compulsory/Optional
Group -
Paper –III

Name/Title of Paper – MICROBIAL ECOLOGY & FOREST MICROBIOLOGY
Time : Three Hours]

[Maximum Marks : 080
[Minimum Pass Marks : 29

नोट : दोनों खण्डों से निर्देशानुसार उत्तर दीजिए। प्रश्नों के अंक उनके दाहिनी ओर अंकित हैं।

Note Answer from both the Sections as directed. The figures in the right-hand margin indicate marks.

Section-A

- Q.1** Fill in the blanks/ True False question 1x10=10
- (a) The foundry of discipline of virology is -----
 - (b) The lowermost layer of Atmosphere is called as -----
 - (c) The Uppermost layer of Atmosphere is called as -----
 - (d) Particular matter of size ----- is capable of entering the blood stream.
 - (e) The process of conversion of gracious Nitrogen to liquid nitrogen is called as -----
 - (f) Thermo bacillus thiooridans is capable of oxidation of Sulphur to Sulphate (Yes or No)
 - (g) Nitrogen are enzyme is responsible for biological nitrogen fixation (Yes or No)
 - (h) Calothrix fears nitrogen fixing Heterocyst (Yes or No)
 - (i) Co-enzyme F-420 is responsible for biological methamgeneris (Yes or No)
 - (j) Co-enzyme M is required for methyl transfer reaction in the metabolism of orcheal methamgeneris. (Yes or No)
- Q.2** Answer the following in short :- 2x5
- (a) Contribution of Selman A Waksman.
 - (b) Ionsphere of Atmosphere.
 - (c) Microbes that can sustain high salauhy condition.
 - (d) Define the term Synergism.
 - (e) Define the herm Parasitism.

Section-B Unit-I

- Q.3** Define in detail on atmospheric pollutants and their side effects on human health. 15x4
- OR
- Prescribe in detail the organisms that have conditure effect an environmental balance and ecosystem maintenance.

Unit-II

- Q.4** Write in detail on soil formation process. OR
- Write in detail on micro organisms that can sustain extreme habitats like (high & low temperature pH and salanity)

Unit-III

- Q.5** Write in detail on microbe-plant interactions. OR
- Write in detail on microbial decomposition of organic natter.

Unit-IV

- Q.6** Write in detail on biological non-symbiotic nitrogen fixation by microbes. OR
- Role of fungal and bacterial biofertilizers in plant growth .