

B. Sc. (Honours) Part-III Examination-2021

Subject- MICROBIOLOGY

PAPER- VII (Genetics of Microorganisms & Medical Microbiology)

FM-50

TIME-2 HRS

Answer any ten questions from the following:

5 x 10= 50

- (a) Define a conditional mutant. Write down the mode of action of alkylating agents and intercalating agents as potential mutagens.
- (b) Define central dogma. Describe Meselson-Stahl experiment as evidence for semi-conservative replication of DNA.
- (c) With the help of a neat, labelled diagram describe the mode of replication of HIV.
- (d) Write a short note on Lac operon.
- (e) Discuss in brief the application of genetic engineering techniques in agriculture.
- (f) Describe Southern blotting, providing a neat, labelled diagram.
- (g) Write down the process of $Hfr \times F^-$ conjugation.
- (h) Describe the normal microflora of gastrointestinal tract in humans.
- (i) Describe the sandwich ELISA, with the help of a neat, labelled diagram.
- (j) What are the symptoms and treatment of candidiasis ?
- (k) Describe the pathogenicity and preventive measures of Typhoid.
- (l) Write briefly on the alternate complement fixation pathway.