Q.P. Code:138005 **Reg. No……**

First Professional B.S.M.S Degree Regular/Supplementary Examinations March 2025

Nunnuyiriyal (Microbiology)

(2021 Scheme)

Time: 3 hrs **Max. Marks: 100**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw table/diagrams/flow charts wherever necessary***

1. **Multiple Choice Questions** **(20x1=20)**

The Answers to MCQ questions (Q.No.i to Q.No.xx) shall be written continuously on the first two writing sheets (ie Page No. 3 & 4) only

i. Who is the Father of Chemotherapy
   a) Paul Ehrlich b) Edward Jenner c) Joseph Lister d) Louis Pasteur
ii. The bacterial component responsible for transfers of drug resistance is
   a) Lysosomes b) Plasmid c) Mesosomes d) Ribosomes
iii. The mode of sterilization of Loffler's Serum Slope (LSS)
   a) Incinerator b) Inspissator c) Plasma sterilizer d) Cold sterilization
iv. The RPR (Rapid Plasma Reagin) test is a
   a) Ring test b) Flocculation test c) ELISA test d) Agglutination test
v. Example of a bacteria that possesses volutine granules.
   a) Clostridium tetani b) Neisseria
   c) Streptococci d) Corynebacterium diphtheriae
vi. Direct Coombs test used to diagnose
   a) Autoimmune hemolytic anemia b) Erythroblastosis fetalis
   c) Lymphocytic leukemia d) All the above
vii. Example for Isophile antigens
   a) Pollen b) Bacterial toxins c) Danders d) Blood group Antigens
viii. Which of the following is the main mode of transmission for the poliovirus
   a) Airborne droplets b) Contaminated food and water
   c) Direct contact with infected individuals d) Bloodborne transmission
ix. Which of the following viruses are best known for latent infections
   a) Herpesvirus b) Poliovirus c) Hepatitis B virus d) Rhinovirus
x. Complement deficiency disorder leads to
   a) Rheumatic fever b) Graves' disease
   c) Pyogenic infection d) Myasthenia gravis
xi. The selective agent of Lowenstein Jensen(LJ) media
   a) Asparagine b) Mineral salt c) Melachite green d) None of these
xii. An example of an Antifungal agent
   a) Tetracycline b) Amphotericin B c) Piperacillin d) Tobramycin
xiii. Neil Mooser's reaction is related to
   a) Rickettsiae b) Chlamydiae
   c) Spirochaetes d) Clostridium perfringens
xiv. Example of Capsulated fungi
   a) Cryptococcus b) Candida c) Aspergillus d) Histoplasma

(PTO)

xv. 'Medusa head' appearance of colonies is a characteristic feature of:
a) Clostridium perfringens b) Bacillus anthracis
c) Mycoplasma hominis d) Ureaplasma urealyticum

xvi. Scrub typhus is caused by
a) Chlamydia b) Neisseria
c) Orientia tsutsugamushi d) None of these

xvii. Example for mechanical vector
a) Mosquito b) House fly c) Ticks d) Lice

xviii. The natural reservoir for filoviruses is believed to be
a) Rodents b) Primates c) Fruit bats d) Domestic animals

xix. Mycetism is caused by
a) Coprine poisoning b) Afla Toxin c) Ochra toxin d) Fumonisin

xx. Ascoli's thermoprecipitation used for the diagnosis of
a) Anthrax b) Tetanus c) Diphtheria d) Botulism

Short Answer Questions **(8x5=40)**

2. Describe the structure of a bacterial endospore and explain its significance.
3. Describe the different types of artificial immunity.
4. Describe the mechanisms with examples of Type III hypersensitivity reactions.
5. List examples of bacterial and viral vaccines, and discuss the MMR (Mumps, Measles, Rubella) vaccine.
6. Classify Streptococci and explain the laboratory diagnosis of Streptococcus pyogenes.
7. Describe the mode of transmission, pathogenesis, and laboratory diagnosis of the Dengue virus.
8. List the identifying features and infections associated with Candida albicans.
9. Explain the principle, types, and applications of Enzyme-Linked Immunosorbent Assay(ELISA).

Long Answer Questions **(4x10=40)**

10. Define and classify sterilization. Provide a detailed explanation of the methods of dry heat sterilization.
11. Describe the morphology, cultural characteristics, pathogenesis, and laboratory diagnosis of Clostridium tetani. Add a note on its Prophylactic measures.
12. Explain the morphology, transmission, pathogenesis, and laboratory diagnosis of the Hepatitis B virus.
13. List the bacteria responsible for urinary tract infections and provide a detailed explanation of Uropathogenic Escherichia coli.

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