Q.P. Code : 02947

[Time: $2\frac{1}{2}$ Hours]

Please check whether you have got the right question paper.

- N.B: 1. All questions are compulsory.
 - 2. Figures to the right indicate marks assigned to the question.

Q. 1 A) Attempt <u>any two</u> of the following

- i) Diagrammatically explain the life cycle of the malarial parasite.
- ii) With reference to specific *T.pallidum* test discuss a) TPI test b) FTA-ABS test c) TPHA test.
- iii) Discuss clinical features of HIV infection.
- iv) With reference to the prophylaxis of tetanus discuss a) surgical b) antibiotic c) active immunization

B) Answer any five of the following-

- i) What is ookinete?
- ii) Name the pathogen associated with Reiter's strain.
- iii) What type of nucleic acid does HIV have?
- iv) Name one transport medium for *Neisseria gonorrhoeae*.
- v) Name the pathogen associated with 'signet ring' shaped appearance in the smear.
- vi) Name the pathogen associated with "trismus".
- vii) What is the purpose of Pulse Polio Programme in India?
- viii) Name the disease treated with AZT.
- ix) Name the pathogen producing tetanospasmin.
- x) What is abortive polio?

Q. 2 Answer <u>any two</u> of the following-

- i) Elaborate on the factors affecting antimicrobial activity in vitro.
- ii) With reference to the azoles, give the following
 - a) Their range of activity
 - b) Their mechanism of action.
 - c) The reason for their selective toxicity.
 - d) One use of ketoconazole.
 - e) One side effect of their use.
- iii) Explain the mode of action of cephalosporins. Give one example each of first, second, third and fourth generation cephalosporins

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- iv) With respect to the sulphonamides, answer the following
 - a) Which compound is inhibited competitively by the sulphonamides?
 - b) Give the range of antibacterial activity of the sulphonamides.
 - c) How are the sulphonamides excreted from the body?
 - d) Which antibiotic acts synergistically with the sulphonamides?
 - e) Give one mode of resistance to the sulphonamides.

(10)

[Marks:75]

(10)

(05)

(05) B) Do as directed for any five of the followingi) Name an antifungal agent. ii) Name one semisynthetic penicillin. iii) Define MBC. iv) Give one therapeutic use of fluoroquinolones. v) What kind of enzymes may be responsible for resistance to aminoglycosides? vi) Give one example of an antiviral agent. vii) What are MRSA? viii) What is meant by extensively drug-resistant tuberculosis? ix) Define PBPs. x) Name one antiprotozoal agent. **Q.3** A) (10) Answer any two of the followingi) Justify: Precipitation reaction can be used to determine the concentration of an antigen in solution. ii) Explain the differences between indirect and sandwich ELISA. iii) Write a short note on secondary humoral response. Discuss the events involved in the conversion of CTL-P to CTL. iv) (05) B) Attempt any five of the followingi) Define class switching. ii) Name an electrophoresis technique used to identify DNA from a complex mixture. iii) For which type of antigen is passive agglutination used? iv) Which type of antigen antibody reaction is involved in blood typing? v) Give the significance of CD 40-CD40L interaction. vi) Give the form of ADCC. vii) What is the full form of SDS PAGE? viii) Give two examples of fluorescent dyes. ix) Perforins have protease activity and mediate DNA fragmentation. State whether the above statement is true or false. Name the antibody secreted initially during primary humoral response. x) **Q.4** A) (10) Attempt any two of the followingi) Write a brief account of DNA vaccine. ii) Justify: Several type of drug delivery systems are being developed as new vaccine strategies. iii) Write a short note on haemolytic disease of the newborn. iv) How would you diagnose type I hypersensitivity reactions? B) (05) Do as directed for <u>any five</u> of the followingi) Give 2 examples of adjuvants used in vaccines. ii) Name the polysaccharide vaccine for Haemophilus influenzae. iii) State one disadvantage of toxoid vaccine. iv) Give an example of a viral vector used for the preparation of recombinant vector vaccines. [P.T.O]

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- v) Vaccination induces artificially acquired passive immunity. State whether the above statement is true or false.
- vi) What is meant by the term 'secretors'?
- vii) Which blood group is designated as universal acceptor?
- ix) Transfusion of blood contaminated with bacteria can lead to _____. Complete the sentence.
 Explain the term Atopy.
- x) Contact dermatitis is a cell mediated hypersensitivity response. State true or false.

Q. 5 Attempt <u>any three</u> of the following-

(15)

- i) Differentiate between IPV and OPV.
- ii) Give an account of extrachromosomal resistance of microbes to antibiotics.
- iii) 'Although penicillins possess less direct toxicity than most other antibiotics, they are still associated with several side effects'- Justify.
- iv) Differentiate between attenuated and inactivated vaccines.
- v) Write a short note on ABO blood grouping system.
- vi) What is meant by serum sickness? Explain its mechanism and manifestation.
