



**ML-224**

**003-001211**

Seat No. \_\_\_\_\_

**B. Sc. (Sem. II) (CBCS) Examination**

**April / May - 2012**

**Microbiology Chemistry And Physiology : MB-201**

*(New Course)*

**Faculty Code : 003**

**Subject Code : 001211**

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

[Total Marks : 70

- Instructions:
- (1) All Questions are Compulsory
  - (2) The right side figure indicates total marks of the question
  - (3) Draw the figure wherever necessary
  - (4) Write answers of all the questions in main answer sheet

**1 MULTIPLE CHOICE QUESTIONS**

- 1 Atomic weight of atom is
  - A. Number of Neutrons
  - B. Number of Protons
  - C. Total Number of Protons & Neutrons
  - D. All of above
  
- 2 Carbon dioxide contains ..... bond between carbon and oxygen.
  - A. Single
  - B. Double
  - C. Triple
  - D. Non of above
  
- 3 The first enzyme purify and crystallized
  - A. Urease
  - B. Protease
  - C. Amylase
  - D. Lipase

- 4 \_\_\_\_\_ is non proteinic enzyme
- A. Urease
  - B. Ribozyme
  - C. Abzyme
  - D. Endoenzyme
- 5 E.C. number of Enzyme means
- A. Electronic configuration number
  - B. Enzyme commission number
  - C. Enzyme catalysis number
  - D. None of the above
- 6 Low Km value indicates
- A. Strong affinity between enzyme and substrate
  - B. Weak affinity between enzyme and substrate
  - C. Low substrate concentration
  - D. Low Enzyme concentration
- 7 Which is an example of Pentose sugar?
- A. Glucose
  - B. Arabinose
  - C. Erythrose
  - D. Lactose
- 8 Which polysaccharide serves as a lubricant & shock absorbant in joints?
- A. Chitin
  - B. Cellulose
  - C. Hyaluronic acid
  - D. Starch
- 9 By which bond amino acids are joined together to form a protein?
- A. Glycosidic
  - B. Peptide
  - C. Hydrogen
  - D. Non of above
- 10 Methionine is an example of ..... Amino acid
- A. Acidic
  - B. Basic
  - C. Aeromatic
  - D. Sulfur containing
- 11 Which is an example of essential fatty acid?
- A. Acetic acid
  - B. Palmitic acid
  - C. Linoleic acid
  - D. Non of above

- 12 Which is monomeric unit of nucleic acid?
- A. Nucleotide
  - B. Amino acid
  - C. Monosaccharide
  - D. Non of above
- 13 The structure of which RNA resembles a clover leaf?
- A. m- RNA
  - B. t - RNA
  - C. r - RNA
  - D. None of above
- 14 Which is the chief concentrated storage form of energy in the body?
- A. Carbohydrate
  - B. Protein
  - C. Nucleic acid
  - D. Lipid
- 15 Aerobic organisms have .....enzyme which give protection against toxic forms of oxygen
- A. Superoxide dismutase
  - B. Amylase
  - C. Lipase
  - D. Ligase
- 16 .....require low levels of oxygen for growth but cannot tolerate the level of oxygen present in an air atmosphere
- A. Microaerophilic bacteria
  - B. Aerobic bacteria
  - C. Facultative anaerobic bacteria
  - D. Strict anaerobes
- 17 Organisms that use reduced inorganic compounds as electron donors are called
- A. Organotrophs
  - B. Lithotrophs
  - C. Both A and B
  - D. None of the above
- 18 Which organisms are able to grow at 0°C or lower temperature
- A. Stenothermophiles
  - B. Mesophiles
  - C. Thermophiles
  - D. Psychrophiles
- 19 Bacterial growth curve has..... Phases.
- A. 1
  - B. 2
  - C. 3
  - D. 4

20 In which phase of bacterial growth, number of organisms remains steady?

- A. Lag
- B. Exponential
- C. Stationary
- D. Non of above

Que-2 (a) Answer Briefly (Any three from six) (6)

- (i) What is an atom?
- (ii) Give Molecular formula for water
- (iii) Which are the classes of Carbohydrates?
- (iv) Which are the components of phospholipids?
- (v) Give general structure of an amino acid
- (vi) Give examples of simple proteins

(b) Answer Briefly (Any three from six) (9)

- (i) Ionic bond
- (ii) Nucleotide
- (iii) Steroids
- (iv) Starch
- (v) Chemical properties of amino acids
- (vi) Types of media

(c) Write short notes on (Any two from five) (10)

- (i) Covalent bonds
- (ii) Structure & properties of Triacylglycerol
- (iii) Features of Watson & Crick model of DNA
- (iv) Reactions of Monosaccharides
- (v) What is growth? Discuss in detail stages of a growth curve of a bacterium

Que-3 (a) Answer Briefly (Any Three from Six) (6)

- (i) Define enzyme activity
- (ii) What are nitrogenous bases?
- (iii) What do you mean by mutarotation?
- (iv) Define lipid
- (v) What is synchronous culture?
- (vi) What are the basic requirements of bacterial growth

(b) Answer Briefly (Any three from six) (9)

- (i) Various factors affecting enzyme activity
- (ii) Classes of Enzymes
- (iii) Functions of Carbohydrates
- (iv) Structure of transfer RNA
- (v) Nutritional classification of bacteria
- (vi) Physical factors affecting growth

(c) Write short notes on (Any two from five) (10)

- (i) Regulation of Enzyme Activity
- (ii) Protein Structure
- (iii) Polysaccharides
- (iv) Classification of Lipids
- (v) Colony characteristics