



**BCI-9003-04-05**

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

**Second Year B. Physiotherapy Examination**  
**January – 2016**  
**Biochemistry & Pathology & Microbiology**

Time : 3 Hours]

[Total Marks : 100

- Instructions :** (1) Write Section-I and Section-II in separate answer books.  
(2) Figures to right side indicates Full Marks of the Question.  
(3) Draw neat and clean diagram wherever it is necessary.  
(4) Illegible writing will not be assessed.

**SECTION - I**  
**(PATHOLOGY & MICROBIOLOGY)**

- 1** Answer any two : **20**  
(a) Discuss wound healing in detail including factors affecting it.  
(b) Describe Morphology, Cultural Characteristics and Pathogenicity of Streptococcus pyogen.  
(c) Define Thrombosis. Discuss Etiopathology of Thrombosis.
- 2** Write short notes on any two : **10**  
(a) Type-I hypersensitivity reaction.  
(b) Systemic Lupus Erythematosus.  
(c) Extra intestinal amoebiasis.
- 3** Write answers in very short : (any five) : **10**  
(a) Principle and uses of hot air oven.  
(b) Name four examples of vector borne infectious diseases.  
(c) Differences between Gram positive and Gram negative Bacterial cell wall.  
(d) Write two microscopic differences between benign and malignant neoplasms.  
(e) Name four chemical mediators of Acute Inflammation.  
(f) Name four types of Necrosis.

4 Give most appropriate (single) answer : (All compulsory) 10

- (1) All are the methods of sterilization by dry heat except:
  - (a) Flaming
  - (b) Incineration
  - (c) Hot air oven
  - (d) Autoclaving
- (2) Which of the following antibodies can cross placenta ?
  - (a) IgA
  - (b) IgM
  - (c) IgG
  - (d) IgD
- (3) Diagnosis of typhoid in the first week is by:
  - (a) Widal Test
  - (b) Blood culture
  - (c) Urine culture
  - (d) Stool culture
- (4) HIV virus contains :
  - (a) Single stranded DNA
  - (b) Single stranded RNA
  - (c) Double stranded DNA
  - (d) Double stranded RNA
- (5) In transmission of malaria, mosquito bite transfers :
  - (a) Sporozoite
  - (b) Merozoite
  - (c) Hypnozoite
  - (d) Schizont
- (6) Amyloid associated with secondary Amyloidosis is -
  - (a) Calcitonin
  - (b) Transthyretin
  - (c) AL protein
  - (d) AA protein
- (7) Epitheloid cells, seen in granulomatous inflammation are modified -
  - (a) Tissue macrophages
  - (b) Polymorphs
  - (c) Eosinophils
  - (d) Adipose cells
- (8) Out of following which is a malignant tumor ?
  - (a) Haemangioma
  - (b) Lymphoma
  - (c) Fibroadenoma
  - (d) Pleomorphic adenoma
- (9) Rheumatoid Arthritis is commonly associated with -
  - (a) Raised ESR
  - (b) Raised CRP
  - (c) Positive RA factor
  - (d) All of the above
- (10) The earliest serological marker to be increased in myocardial infarction is -
  - (a) LDH
  - (b) SGPT
  - (c) Troponin T
  - (d) SGOT

## SECTION - II (BIOCHEMISTRY)

- 5 Long essays on any two of the following : **10×2=20**
- (a) Explain the citric acid cycle. How is the pathway regulated ?
  - (b) Define the lipids. Explain the digestion and absorption of lipids.
  - (c) Define proteins. Enumerate the major classes of proteins giving one example for each.
- 6 Explain any two of the following : **5×2=10**
- (a) Calcium and phosphate homeostasis.
  - (b) Ketone body formation and breakdown.
  - (c) Transamination reaction and its importance.
- 7 Write short notes on any five of the following : **2×5=10**
- (a) Name various phospholipids
  - (b) Biochemical functions of folic acid
  - (c) Enumerate the factors that affect enzyme activity
  - (d) Name the coenzymes derived from vitamin B-complex
  - (e) Examples of lipotropic factors
  - (f) Name biological substances which are synthesized from tyrosine and tryptophan.
- 8 Multiple choice questions (Each question below **1×10=10** contains four suggested answers. Select one best response to each question and write the correct answer in the answer book)
- (1) The number of helices present in a collagen molecule is -
    - (a) 1
    - (b) 2
    - (c) 3
    - (d) 4
  - (2) The sugar moiety present in RNA is -
    - (a) Ribulose
    - (b) Phenylalanine
    - (c) Deoxyribulose
    - (d) Ribose
  - (3) The coenzyme form of vitamin B<sub>2</sub> is -
    - (a) ATP
    - (b) NAD
    - (c) GTP
    - (d) FAD

- (4) An example of ligase enzyme is -  
(a) Aldolase (b) Fumarase  
(c) Racemase (d) Thiokinase
- (5) Excretion of reducing sugar in urine is known as -  
(a) Glycosuria (b) Aminoaciduria  
(c) Hematuria (d) Hemoglobonuria
- (6) Cobalamin deficiency causes -  
(a) Pernicious anemia  
(b) Hemolytic anemia  
(c) Iron deficiency anemia  
(d) Megaloblastic anemia
- (7) Dicumarol is antagonist to -  
(a) Riboflavin (b) Retinol  
(c) Menadione (d) Tocopherol
- (8) The chief extracellular cation is -  
(a) Sodium (b) Potassium  
(c) Calcium (d) Magnesium
- (9) The richest source of copper is -  
(a) Liver (b) Milk  
(c) Legumes (d) Oranges
- (10) Purine biosynthesis is inhibited by -  
(a) Aminopterin (b) Tetracycline  
(c) Methotrexate (d) Chloramphenicol
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