

FIRST YEAR BHMS (NEW SYLLABUS)  
EXAMINATION OCT-2016  
PHYSIOLOGY- PAPER - I  
Code-10194

Time: 3 hours

Total Marks: 100

**Instructions:**

1. Attempt all questions from each section
2. Figures to the right indicate full.
3. Make suitable assumptions wherever necessary.
4. Write separate sections on separate answer sheets.

**Section - I**

- |           |   |                         |
|-----------|---|-------------------------|
| Q-1       | Define cardiac cycle and describe various events taking place in it.  | 15                      |
| <b>OR</b> |   |                         |
| Q-1       | Define hemostasis. What are different mechanisms to achieved hemostasis? Briefly describe pathway of blood coagulation. | 15                      |
| Q-2       | What is erythropoiesis? Describe the different stages of erythropoiesis and explain regulation of it.                   | 15                      |
| <b>OR</b> |   |                         |
| Q-2       | 1. Describe the structure and functions of spleen   | 08                      |
|           | 2. Define arterial blood pressure. Explain long term regulation of arterial blood pressure                              | 07                      |
| Q-3       | Write Short Note ( Any three)   | 15                      |
|           | (a) thymus gland  | (b) windkessel's effect |
|           | (c) Golgi bodies  | (d) diffusion           |
|           | (e) which are properties of RBC? Describe any one.  |                         |
| Q-4       | M C Q   | 05                      |
|           | 1. Osmotic pressure of a solution is related to the,  |                         |
|           | a. Number of particles dissolved in the solution  |                         |
|           | b. Size and type of the particles   |                         |
|           | c. Chemical compositions of the solution  |                         |
|           | d. Number of equivalents of an electrolyte in the solution.   |                         |
|           | 2. Peroxisome;  |                         |
|           | a. Their structure and chemical composition is similar to that of lysosomes   |                         |
|           | b. They destroying products termed from oxygen, esp. hydrogen peroxide  |                         |
|           | c. They engulf exogenous substances and degrade them  |                         |
|           | d. They consume oxygen in large amount, hence the name peroxisomes.   |                         |
|           | 3. Heart receives about;  |                         |
|           | a. 2% of cardiac output   |                         |
|           | b. 5% of cardiac output   |                         |
|           | c. 1% of cardiac output   |                         |
|           | d. 10% of cardiac output  |                         |
|           | 4. Hemophilia is,   |                         |
|           | a. Autosomal dominant   |                         |
|           | b. Autosomal recessive  |                         |
|           | c. X- linked recessive  |                         |
|           | d. X- linked dominant   |                         |
|           | 5. Lymph of which organ has highest protein concentration up to 6 mg/dl?  |                         |
|           | a. Liver  |                         |
|           | b. Intestine  |                         |
|           | c. Thoracic duct  |                         |
|           | d. Legs.  |                         |

## Section - II

- Q-1 Describe pulmonary ventilation in detail. 15
- OR
- Q-1 What is GFR? Its normal value? Which are the different factors affecting on it? Describe it. 15
- Q-2 Describe mechanism of concentration and dilution of urine 15
- OR
- Q-2 1 Describe the transportation of O<sub>2</sub> from lungs to tissue cells 08  
2 Describe micturition reflex 07
- Q-3 Write Short Note ( Any three) 15
- (a) chemical regulation of respiration (b) dead space  
(c) histology of nephron (d) structure and glands of skin  
(e) wallerian degeneration
- Q-4 M C Q 05
- The volume gas contained in the lung at the end of maximum inspiration is,
    - Functional residual capacity
    - Inspiratory capacity
    - Inspiratory reserve volume
    - Total lung capacity
  - Destruction of pneumotaxic center in pons causes;
    - Apnea
    - Forceful respiration
    - Apneustic respiration
    - Accelerated respiration
  - GFR is increased when;
    - Constriction of afferent vessels
    - Decreased systemic blood pressure
    - Increased plasma colloidal osmotic pressure
    - Decreased plasma colloidal osmotic pressure
  - Which area of hypothalamus functions as thermostat?
    - Preoptic
    - Paraventricular
    - Dorsomedial
    - Lateral
  - What type of ions probably most important in causing release of transmitter from vesicles at nerve endings?
    - Na<sup>+</sup>
    - K<sup>+</sup>
    - Mg<sup>2+</sup>
    - Ca<sup>2+</sup>