



Name :

Roll No. :

Invigilator's Signature :

**CS/B.OPTM/SEM-1/BO-102/2009-10
2009**

PHYSIOLOGY (GENERAL)

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

- i) A deep notch is present at the medial border of the kidney, called
 - a) calyces
 - b) renal pelvis
 - c) hilus
 - d) medulla.
- ii) Tuft of capillary vessels which is surrounded by Bowman's capsule is known as
 - a) Glomerulus
 - b) Malphigian corpuscles
 - c) Loop of Henle
 - d) Juxtaglomerular apparatus.

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- iii) Factor which converts prothrombin to thrombin is
- a) Fibrinogen b) Thromboplastin
c) Platelets d) Fibrin.
- iv) Third sound of heart occurs when
- a) Atrio-ventricular valves open
b) Atrio-ventricular valves close
c) Semilunar valves open
d) Semilunar valves close.
- v) Magnitude of current just sufficient to excite a nerve or muscle is known as
- a) Chronaxie b) Tetanus
c) Rheobase d) Rigor mortis.
- vi) Normal volume of glomerular filtration is
- a) 90 ml/min b) 125 ml/min
c) 200 ml/min d) none of these.
- vii) Pulmonary artery carries
- a) oxygenated flood
b) deoxygenated flood
c) all of these
d) none of these.
- viii) Universal blood donor is a person having blood.
- a) Group A b) Group B
c) Group AB d) Group O.



- ix) Glucose is mainly reabsorbed from kidney via
- a) Proximal tubule b) Loop of Hente
c) Distal tubule d) All of these.
- x) Cells responsible for development of myelin sheath are called
- a) Glial cells b) Ependymal cells
c) Schwann cells d) Satellite cells.
- xi) Blood coagulation factor IX is known as
- a) Christmas factor
b) Stuart factor
c) Hageman factor
d) Labile factor.

GROUP – B

(Short Answer Type Questions)

Write short notes on any *three* of the following.

3 × 5 = 15

2. D.N.A.
3. Composition of urine.
4. Electrophoresis.
5. Thalassaemia.

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GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

6. Describe briefly the structure of nephron with suitable diagram. What is counter current exchange system ? On the basis of location, classify the nephron present in human kidney. $8 + 4 + 3$
7. Explain cardiac cycle along with heart sounds produced during different phases of the cycle. Discuss the regulatory factors of cardiac output. What is the significance of blood pressure ? $8 + 4 + 3$
8. Discuss the EC coupling of the muscle contraction. Explain All-or-None law and Einthoven's law. 15
9. a) Describe the composition and functions of blood.
- b) What is anaemia ? Discuss the different types of anaemia. $8 + 7$
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