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34(1) PHYS 1.2

2015

PHYSIOLOGY

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Answer **any two** of the following :

10×2=20

(a) Define blood pressure. What do you mean by systolic and diastolic blood pressure? Discuss the different physiological variations in blood pressure. 1+2+7=10

(b) Define cell with a diagram. Name the different cell organelles and discuss their functions. 2+8=10

(c) Define respiration. Name different muscles that help in respiration and discuss the mechanism of respiration. 1+9=10

Contd.



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2. Give short answer : (**any five**) 2×5

- (a) Define neuron with diagram.
- (b) Define endocytosis.
- (c) Discuss myxoedema.
- (d) Define homeostasis.
- (e) What is timed vital capacity?
- (f) What is facilitated diffusion?
- (g) Define Tachycardia.

3. Answer **any ten** of the following :

5×10=50

- (a) Discuss Hypoxia.
- (b) Discuss Neuromuscular Junction.
- (c) Discuss Juxtaglomerular Apparatus.
- (d) Discuss Reflex Arc.
- (e) Discuss anaemia.
- (f) Discuss growth hormone.
- (g) Discuss menstrual cycle.
- (h) Discuss myopia.
- (i) Discuss oxygen haemoglobin dissociation curve.

10. Discuss the formation and functions of CSF. 5
11. Discuss Oxygen Haemoglobin Dissociation Curve with suitable diagram. 5
12. Discuss Cushing's Syndrome. 5

Short Answer Type : (**Any five out of seven**) questions : 2×5=10

1. Define Arterial Pulse. 2
2. State the Landsteiner's Law. 2
3. Define Hypoxia. 2
4. Define Reflex Arc. 2
5. Define Anaemia. 2
6. Define Jaundice. 2
7. Define Visual Acuity. 2

Multiple Choice Questions : 1×20=20

1. Cytoskeleton comprises
 - (a) Microtubules and microfilaments
 - (b) Cell membrane
 - (c) Golgi complex
 - (d) Cell junctions.

2. Active transport processes
(a) Are often referred as pumps
(b) Help transport of substances across the cell membrane along the electrochemical gradient.
(c) Both
(d) None.
3. Major anion in intracellular fluid is
(a) Protein
(b) Phosphate
(c) Chloride
(d) Bicarbonate.
4. All or none law refers to
(a) Resting potential
(b) Spike potential
(c) Excitatory postsynaptic potential
(d) None.
5. Milieu interior refers to
(a) Internal environment of the cell
(b) Fluid present within the cell
(c) Haemostasis
(d) None.

6. Oncotic pressure of plasma is due to
(a) Albumin
(b) Electrolytes
(c) Fibrinogen
(d) None.
7. Each haemoglobin molecule carries how many molecules of oxygen
(a) 2
(b) 4
(c) 6
(d) 8.
8. Iron deficiency anaemia is
(a) Normocytic normochromic
(b) Normocytic hypochromic
(c) Microcytic hypochromic
(d) Macrocytic hypochromic.
9. Conjugation of bilirubin occurs in
(a) Hepatocytes
(b) Granulocytes
(c) Lymphocytes
(d) Erythrocytes.

10. Immediate energy source for muscle contraction is

- (a) GTP
- (b) ATP
- (c) Lactic acid
- (d) Creatinine phosphate.

11. Pacemaker potential is

- (a) Characterized by unstable RMP
- (b) Also called spike potential
- (c) Both
- (d) None.

12. Dysphagia means

- (a) Loss of deglutition reflex
- (b) Difficulty in breathing
- (c) Difficulty in swallowing
- (d) None.

13. The usual stimulus of peristalsis is

- (a) Distension
- (b) Sympathetic stimulation
- (c) Acid chyme
- (d) Alkaline chyme.

(m) pH of urine is

- (i) Slightly acidic
- (ii) Slightly alkaline
- (iii) Neutral
- (iv) None

(n) In hypermetropia image is formed

- (i) Behind retina
- (ii) Infront of retina
- (iii) On the retina
- (iv) None

(o) Insulin is secreted from

- (i) Adrenal gland
- (ii) Kidney
- (iii) Liver
- (iv) Pancreas

(p) Pain sensation is carried by

- (i) Dorsal spinothalamic tract
- (ii) Corticospinal tract
- (iii) Lateral spinothalamic tract
- (iv) All of the above

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- (q) Spermatogenesis means formation of
 - (i) Male gametes
 - (ii) Female gametes
 - (iii) Both
 - (iv) None

- (r) P wave in ECG is due to
 - (i) Atrial depolarization
 - (ii) Atrial repolarization
 - (iii) Ventricular depolarization
 - (iv) Ventricular repolarization

- (s) Neutrophil is usually increased in
 - (i) Acute infection
 - (ii) Chronic infection
 - (iii) Both
 - (iv) None

- (t) Ear ossicles are
 - (i) Stapes
 - (ii) Malleus
 - (iii) Incus
 - (iv) All of the above