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34 (1) PHYS 1·2

2021

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 Nephron with suitable diagram. Mention its functions.
 - (b) What is SA node ? Write down the physiology of cardiac output.
 - (c) Mechanism of respiratin.

2. Answer **any ten** of the following :
5×10=50
 - (a) Functions of blood and its composition.
 - (b) Juxtaglomerular Apparatus.
 - (c) Hypoxia.

Contd.

(d) Anaemia.

(e) Cell.

(f) Synapse.

(g) Jaundice.

(h) Functions of Pancreas.

(i) Bile.

(j) Gastrin.

(k) Insulin.

3. Answer **any five** of the following : $2 \times 5 = 10$

(a) Vital capacity.

(b) GFR.

(c) Arterial Pulse.

(d) Blood Pressure.

(e) Composition of Pancreas.

(f) Functions of saliva.

(g) Androgens.

4. Choose the correct answer : $1 \times 20 = 20$

(a) Lifespan of RBC is :

(i) 50 days

(ii) 25 days

(iii) 120 days

(iv) 90 days

(b) Conjugation of Bilirubin occurs in :

(i) Hepatocytes

(ii) Lymphocytes

(iii) Neutrophils

(iv) Kidney

(c) Immediate source of energy for muscle contraction is :

(i) Lactic acid

(ii) GTP

(iii) ATP

(iv) None of the above

(d) Normal GFR is :

(i) 20

(ii) 40

(iii) 60

(iv) 90-100

(e) SA node is situated in :

(i) Lt. atrium

(ii) Rt. atrium

- (iii) Bundle of His
 - (iv) Rt. ventricle
- (f) Each haemoglobin molecule carries how many molecules of oxygen ?
- (i) 2
 - (ii) 6
 - (iii) 4
 - (iv) 8
- (g) Normal WBC count is :
- (i) 15,000
 - (ii) 4-10,000
 - (iii) 16,000
 - (iv) 20,000-30,000
- (h) Smooth muscle does not contain —
- (i) Actin
 - (ii) Myosin
 - (iii) Tropomyosin
 - (iv) Troponin
- (i) Dyspnoea means —
- (i) difficulty in breathing
 - (ii) difficulty in swallowing

- (iii) difficulty in defecation
 - (iv) None of the above
- (j) Surfactant causes —
- (i) increase compliance of lungs
 - (ii) decrease compliance of lungs
 - (iii) Both
 - (iv) None of the above
- (k) Hyperthyroidism means —
- (i) decrease of T_3 , T_4
 - (ii) increase of T_3 , T_4
 - (iii) Both
 - (iv) None of the above
- (l) The ossicles → malleus, incus, stapes are present in :
- (i) External ear
 - (ii) Middle ear
 - (iii) Internal ear
 - (iv) None of the above
- (m) Taste buds are :
- (i) Sense of organ of hearing
 - (ii) Sense of organs of tastes

- (iii) Both
- (iv) None of the above.
- (n) Normal urine output of adult male is :
- (i) 3 litres/day
- (ii) 7 litres/day
- (iii) 1.5 litres/day
- (iv) 10 ml.
- (o) Sleep apnoea means :
- (i) Cessation of micturition
- (ii) Cessation of respiration
- (iii) Conduction delay
- (iv) decreased cardiac output
- (p) TSH is secreted from —
- (i) Thyroid gland
- (ii) Parathyroid gland
- (iii) Pancreas
- (iv) Hypothalamus
- (q) Eosinophilia is found in :
- (i) Allergic reactions
- (ii) Acute infections
- (iii) Chronic infections
- (iv) None of the above
- (r) Apoptosis is a —
- (i) a process of cell division
- (ii) a process of cell death
- (iii) Both
- (iv) None of the above
- (s) Glucagon is secreted from :
- (i) Pituitary gland
- (ii) Adrenal gland
- (iii) Pancreas
- (iv) Liver
- (t) Normal minimum sperm count is :
- (i) 15 million/ml.
- (ii) 6 million/ml.
- (iii) 9 million/ml.
- (iv) 14 million/ml.