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34 (1) PHYS 1·2

✓ 2017

PHYSIOLOGY

Full Marks : 100

Time : Three hours

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

- A. Essay type : (Answer **any two** out of **three**)
10×2=20
1. Define Blood Pressure and mention its normal values. Discuss the variations of blood pressure. 2+8=10
 2. Discuss the synthesis, storage and actions of thyroid hormone. 10
 3. Define Synapse. Discuss the functional anatomy, classification, synaptic transmission and properties of synapse. 1+9=10

Contd.

B. Short Essay Type : (**Any ten** out of **twelve**)

5×10=50

1. Define Blood. Discuss the composition and functions of blood. 1+4=5
2. Discuss action potential with suitable diagram. 5
3. Discuss the excitation contraction coupling of skeletal muscle. 5
4. Define Cardiac Output. Discuss its normal values and determinants. 5
5. Discuss the mechanics of breathing. 5
6. Discuss the composition, function and regulation of secretion of gastric juice. 5
7. Define Nephron. Discuss the differences between cortical and juxtamedullary nephrons. 1+4=5
8. Discuss the different phases of Menstrual Cycle. 5
9. Discuss Myopia and Hypermetropia with suitable diagrams. 5

(j) Discuss ECG.

(k) Discuss erythropoiesis.

(l) Discuss the secretion of HCl in stomach.

4. Choose the correct answer : 1×20=20

(a) Cell membrane is also known as

(i) Plasma membrane

(ii) Basement membrane

(iii) Both

(iv) None

(b) Suicidal bag is the other name of which cell organelle

(i) Mitochondria

(ii) Lysosome

(iii) Endoplasmic reticulum

(iv) All of the above

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- (c) The process by which materials are extruded from the cell is known as
- (i) Endocytosis
 - (ii) Exocytosis
 - (iii) Thrombocytosis
 - (iv) None
- (d) The average amount of blood that is present in an adult male is about
- (i) 5 litres
 - (ii) 2 litres
 - (iii) 8 litres
 - (iv) 10 litres
- (e) Anaemia is due to reduction in the number of
- (i) W.B.C
 - (ii) R.B.C
 - (iii) Platelet
 - (iv) All of the above

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- (f) Which blood group is known as universal donor
- (i) O negative
 - (ii) A negative
 - (iii) B negative
 - (iv) AB negative
- (g) HCl in stomach is secreted by
- (i) Oxyntic cells
 - (ii) Chief cells
 - (iii) D cells
 - (iv) G cells
- (h) Normal tidal volume is
- (i) 100ml
 - (ii) 500ml
 - (iii) 800ml
 - (iv) 1000ml
- (i) Eupnea means
- (i) Increased respiration
 - (ii) Normal respiration
 - (iii) Decreased respiration
 - (iv) No respiration

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(j) The right atrioventricular opening is guarded by

- (i) Tricuspid valve
- (ii) Bicuspid valve
- (iii) Semilunar valve
- (iv) None

(k) Pacemaker of the heart is

- (i) SAN
- (ii) AVN
- (iii) His Bundle
- (iv) Purkinje fibres

(l) Normal GFR is

- (i) 100ml/min
- (ii) 125ml/min
- (iii) 150ml/min
- (iv) 175ml/min

14. Eupnoea means

- (a) Rhythmic normal breathing at rest
- (b) Difficulty in breathing
- (c) Cessation of breathing
- (d) Consciousness breathing at rest.

15. Surfactant causes

- (a) Increased compliance of lung
- (b) Decreased compliance of lung
- (c) Secreted by bronchus
- (d) Absent at birth.

16. Juxtaglomerular cells are located in

- (a) Afferent arteriole
- (b) Efferent arteriole
- (c) Distal convoluted tubule
- (d) Glomerular tuft.

17. Milk ejection reflex is mediated by

- (a) Oxytocin
- (b) Vasopressin
- (c) Prolactin
- (d) Oestrogen.

18. Head ganglion of autonomic nervous system is

- (a) Thalamus
- (b) Hypothalamus
- (c) Superior cervical ganglion
- (d) Stellate ganglion.

19. Largest WBC is

- (a) Lymphocyte
- (b) Monocyte
- (c) Basophil
- (d) Neutrophil.

20. Testosterone is secreted by

- (a) Leydig cells
- (b) Seminiferous tubule
- (c) Sertoli cell
- (d) Pituitary.