

- a) Factor VIII
c) Factor IX
- b) Factor V
d) Factor XI
- (ix) Which type of anemia is caused by vitamin B12 deficiency affecting red blood cell production?
a) Iron deficiency anemia
c) Hemolytic anemia
- b) Pernicious anemia
d) Aplastic anemia
- (x) In the case where an adult individual's RBC membrane does not contain any Rh antigen, which of the following is accurate?
a) Partial D
c) Rh negative
- b) Weak D
d) Rh Null
- (xi) Which type of cardiomyopathy is characterized by thickened ventricular walls and reduced ventricular volume?
a) Dilated cardiomyopathy
c) Restrictive cardiomyopathy
- b) Hypertrophic cardiomyopathy
d) Ischemic cardiomyopathy
- (xii) The primary center responsible for controlling the rhythm of breathing is located in the
a) Medulla oblongata
c) Hypothalamus
- b) Cerebral cortex
d) Pons
- (xiii) During exercise, which of the following respiratory parameters increases the most?
a) Functional residual capacity
c) Residual volume
- b) Total lung capacity
d) Tidal volume
- (xiv) A deficiency of cortisol secretion leads to which condition?
a) Cushing's syndrome
c) Graves' disease
- b) Addison's disease
d) Acromegaly
- (xv) The withdrawal reflex is an example of a
a) Monosynaptic reflex
c) Conditioned reflex
- b) Polysynaptic reflex
d) Cranial reflex

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Differentiate between forward typing and reverse typing in ABO grouping. (3)
3. Describe the mechanism of platelet activation and plug formation in primary hemostasis. (3)
4. What is Portal Triads? Write the role of Bile salt in the emulsification of Fats. (3)
5. Explain the role of parasympathetic nerves in initiating the micturition reflex. (3)
6. Explain how the hypothalamic-pituitary-gonadal axis regulates spermatogenesis. (3)

OR

Discuss how obstructive azoospermia differs from non-obstructive azoospermia? Explain the (3) role of Sertoli Cells in Sperm Maturation.

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Explain the role of carbonic anhydrase in the mechanism of HCl secretion in parietal cells. (5)
What is Zollinger-Ellison syndrome?
8. Explain how menopausal hormonal changes (reduced estrogen levels) affect bone density (5) and joint health, and the role of physiotherapy in preventing osteoporosis.
9. Analyze why women with Polycystic Ovary Syndrome (PCOS) may experience irregular (5) menstrual cycles
10. Explain the difference between isotonic and isometric contractions in skeletal muscle. How (5) does muscle fatigue occur during prolonged exercise?
11. Analyze how hypoxia stimulates erythropoiesis and the role of erythropoietin in this (5) process.

12. Analyze how the enterogastric reflex prevents excessive gastric emptying when the duodenum is distended or contains acidic chyme. (5)

OR

Propose a molecular mechanism to explain how thyroid hormones enhance oxygen consumption in tissues. (5)

Library
Brainware University
398, Ramkrishnapur Road, Barasat
Kolkata, West Bengal-700125