

PARUL UNIVERSITY
FACULTY OF MEDICINE
M.B.B.S EXAMINATION DECEMBER 2021

Year: 1

Date: 20.12.2021

Subject Code: 19100183

Time: 10:00am to 1:00 pm

Subject Name: Physiology Paper-I

Total Marks: 100

Instructions:

1. Attempt all questions from each section.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary

SECTION – A**Q- 1. Structure Essay question (No choice) 2 x 10****(20)**

A. An young person is admitted for major heart surgery. Doctor has asked patient's relative to arrange 5 units of B +ve blood.

1. What is agglutination ? (1)
2. Who can donate the blood to this patient? (1)
3. What is cross matching and direct matching ? (4)
4. What are the reactions with mismatched blood transfusion? (4)

B. A person had complained of severe breathlessness. His investigation report shows FEV₁% was very low (60%).

1. Report of patient indicate which type of lung disease ? (1)
2. What are obstructive & restrictive lung diseases ? (4)
3. Define Vital capacity and factors affecting VC (5)

Q- 2. Write short notes on : (Any Four out of Five) 4 x 5**(20)**

1. Differences between active and passive transport in cell.
2. What is erythropoiesis ? Describe factors affecting it in brief.
3. Name the types of immunity. Describe cell mediated immunity.
4. Osmosis.
5. Intrinsic mechanism of blood coagulation.

SECTION – B**Q- 3 Explain briefly on: (Any Three out of Four) 3 x 6****(18)**

A. A patient is suffering from chronic hypertension and renal failure. Relevant blood report shows low GFR, low Hb and high creatinine.

1. Define GFR ? (1)
2. Draw a labeled diagram of Nephron. (3)
3. Explain cause of anemia in this patient & its management. (2)

B. A trained athlete went for routine health checkup. His heart rate was 60/min with normal ECG record.

1. What is the physiological basis of bradycardia in this person ? (1)
2. Describe factors which alter heart rate. (2)
3. Draw and label a normal ECG. (3)

C. A person came with complaints of severe headache and edema over legs. On examination doctor has found his blood pressure was 130/110 mm/Hg.

1. Define systolic and diastolic blood pressure with its normal value.(2)
2. Write briefly about baroreceptor reflex. (3)
3. State Mary's reflex.(1)

D. 65 years old chronic smoker patient was complaining of hyperacidity and ulcer in mouth. Patient was having spicy food at every meal. Endoscopic examination and gastric function tests have diagnosed gastric ulcer.

1. What are probable causes of gastric ulcer in this patient? (2)
2. Why this patient may develop deficiency of Vitamin B12? (2)
3. Explain postprandial alkaline tide? (2)

Q- 4 Write short notes on : (Any Three out of Four) 3 x 4

(12)

1. Heart sounds
2. Decompression sickness
3. Hypoxia
4. Effect of sympathetic stimulation on heart

SECTION – C

Q- 5 Write short notes on : (Any five out of Six) 5 x 5

(25)

1. Functions of Saliva
2. Nervous control of micturition.
3. Movements of small intestine
4. Renin angiotensin mechanism and its importance.
5. Counter current multiplier system
6. Functions of Liver

Seat No: _____

Enrollment No: _____

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SECTION – C

Q- 6 Tick mark only correct Answer in MCQ 5 x 1

(05)

1. A new born baby suffers with respiratory distress syndrome. What will be the cause?
 - a. More production of lung surfactant.
 - b. Increase in lung compliance.
 - c. Less production of lung surfactant.
 - d. Decrease in thoracic compliance

2. A patient after clinical examination and blood tests is diagnosed suffering with microcytic and hypochromic anemia. What will be the cause ?

a. Vitamin A deficiency	c. Vitamin B12 deficiency
b. Vitamin E deficiency	d. Iron deficiency

3. A person overate at lunch and started vomiting. Which movement of GIT is responsible for vomiting ?

a. Anti peristaltic	c. segmental
b. Peristaltic	d. Pendular

4. A one year old boy is diagnosed with cryptorchidism/absence of testes in scrotum. What reproductive function will be affected in future if surgery will not performed in time.

a. Inhibin production	c. Spermatogenesis
b. Testosterone production	d. Impairment of erectile response

5. Erythroblastosis fetalis found when
 - a. Mother is Rh -ve and father is Rh +ve.
 - b. Mother is Rh +ve and father is Rh -ve.
 - c. Mother is Rh -ve and father is Rh -ve.
 - d. When mother is Rh +ve and father is Rh +ve.
