



RAN-2006000101020001

First Year M.B.B.S. Examination April - 2023

Physiology: Paper -I

Time: 3 Hours] [Total Marks: 100									
સૂચના : / Instructions									
(૧) નીચે દર્શાવેલ 🖝 નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fill up strictly the details of 🖝 signs on your answer book									
	Name of the Examination:								
	First Year M.B.B.S.								
	Name of the Subject :		-01						
	Physiology: Paper -I								
	Subject Code No.: 2006000101020001		Student's Signature						
(2)	SECTION A (MCQ) is given in separate	shee	t.						
(3)									
	16								
	Section A (MCQ	s)	20 Marks						
		(2/,						
	Select the most appropriate choice	sé in	each of the following MCO						
	Select the most appropriate choic	5	each of the following free						
1.	Which of the following acts as a cell	adhes	sion molecule						
	a) Connexin	b)	Kinesin						
	c) Actin	d)	Cadherin						
2.	All of the following transport process	follo	ow 'saturation kinetics' except						
	 a) Simple diffusion 	b)	Facilitated diffusion						
	 c) Na⁺-Ca⁺ exchanger 	d)	Na+ coupled active transport						
3.	Enzymes catalases are present in		ъ						
	a) Lysosomes	b)	Peroxisomes						
	c) Ribosomes	d)	Mitochondria						
4.	The Equilibrium potential for Na+ is								
٠.	a) +60mV	b)	+90mV,						
	c) +70mV	d)	+100mV						
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	 Hypoxic hypoxia 	d)	Stagnant hypoxia	90				
15.	a) Anemic hypoxia	is a type of b)	Histotoxic hypoxia					
13.	Carbon monoxide poisoning is a type of							
	a) P-P c) P-R	b) d)	R-R T-T					
12.	following two consecutive waves?							
	c) Prostaglandins	d)	Dopamine					
11.	Which is the most potent cord a) Adenosine	onary vasodila b)	ator Lactate					
	 c) Third degree AV nodal h d) Mobitz type II block 	oločk						
	b) Second degree AV nodal	l block						
10.	Atrioventricular dissociation (a) First degree AV nodal bl	1000						
	c) Thromboxane A2	d)	Serotonin					
	a) von Willebrand factor	b)	Thrombosthenin					
9.	The property of aggregation of platelets is because of							
	a) Prothrombin activator c) Factor VIII	b) d)	Factor II Factor X					
	that this patient has a deficien	-						
8.	A 2-year-old boy bruises easily and has a history of nosebleeds. He has also had bleeding into his knee joints after minimal trauma. You would suspect							
	d) Induction of Apoptosis							
	b) Suppressing the activityc) Preventing the activity of		-					
· ·	The function of suppressor T (Ts) cells is a) Secreting interleukin-2 b) Suppressing the activity of B lymphocytes.							
7.								
	a) Stressful condition.c) Pyogenic infection.	b) d)	Urticaria Corticosteroid therapy.					
6.	Eosinophilia occurs in	1.5	I Intimoria					
	d) Asynchronous discharge of motor units							
	c) Synchronization of nerv							
	 a) Recruitment of motor ur b) Frequency of nerve improvement 							
5.		nic type but not jerky because of						





14	Given Tidal Volume = 540 ml, Anatomical Dead Space = 180 ml and Respiratory Rate = 14/min, calculate Alveolar Ventilation per minute						
	a)	4200 ml	b)	6890 ml			
	c)	4680 ml	d)	5040 ml			
15.	Enzymes within the lung are responsible for the activation of						
	a)	Angiotensin II	b)	Bradykinin			
	c)	Prostaglandins	d)	Serotonin			
16.	Voluntary micturition						
	 Depends on the integrity of a lumbar spinal reflex arc 						
	 Is not possible after sensory denervation of the bladder 						
	Involves stimulation of the detrusor muscle in the bladder by autonomic sympathetic perves						
	autonomic sympathetic nerves d) Is normally accompanied by some reflux of bladder contents into the						
	u)	 Is normally accompanied by some reflux of bladder contents into the ureters 					
17.	Aldosterone secretion tends to raise the volume of						
	a)	Interstitial fluid	b)	Intracellular fluid			
	c)	Urine	d)	CSF			
18.	A patient with chronic renal failure has all of the following except						
	a) Increased Blood urea						
	b)	Increased Blood uric acid		2			
	c) Increased creatinine clearance						
	d)	Increased acid-base disturbance	n a	high protein diet			
	Te,						
19.	Paralytic Salivary secretion is seen on sectioning of						
	a) Tympanic nerve						
	b)	Auriculotemporal nerve					
	c)	Chorda Tympani nerve					
	d)	Otic ganglion					
20.	The following stimulate pancreatic secretion rich in water and bicarbonate						
	a)	Secretin					
	b)	Cholecystokinin					
	c)	Gastrin					
	d)	Vagal stimulation					

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[Time:3 Hours] [Total Marks: 100]

Instruction:

- Section A (MCQ) is given in separate sheet.
- Draw diagrams and flow chart wherever required. (2)

Section - "B" (40 Marks)

- Q.I A 43-year-old man presents to the physician's clinic with complaints of epigastric pain. After a thorough workup, the patient is diagnosed with peptic ulcer disease. He is started on a medication that inhibits the "proton pump" of the stomach. (10 marks)
 - a. What is the "proton pump" that is referred to above? (1 mark)
 - b. What type of cell membrane transport would this medication be blocking? (1 mark)
 - Describe the types of transport where molecules use ATP as C. energy to move against concentration gradient across a cell membrane? (4 marks)
 - d. Describe Peptic ulcer disease. (4 marks)

Answer in Short (Any 5 out of 6) Q.2

(5x3=15 marks)

- Apoptosis
- Draw a labelled diagram of Sarcomere
- Functions of Monocytes
- 4. Conducting system of heart
- Excitation contraction coupling in smooth muscle
- Importance of cross matching in blood transfusion

Q.3Short notes (Any 3 out of 4)

(3x5=15 marks)

- Ventricular events in Cardiac cycle
- Immunoglobulins
- Sites and Stages of erythropoiesis (2+3marks)
- Functions of Liver





Section - "C" (40 Marks)

Q.4 Define Cardiac output. Explain any one method by which Cardiac
Output is determined. Explain the factors that regulate Cardiac output.
(1+3+6=10marks)
(10 marks)

Q.5 Answer in Short (Any 5 out of 6)

(5x3=15 marks)

- Acclimatization at high altitude
- 2. Definition and classification of Diuretics

(1+4 marks)

- 3. Pancreatic Enzymes
- Morphological classification of Anaemia
- 5. Role of ADH in homeostasis
- 6. Respiratory membrane
- Q.6 Short notes (Any 3 out of 4)

(3x5=15 marks)

- Neural Regulation of Respiration.
- Lung Surfactant and it's function and applied aspect

(1+2+2 marks)

- What is Tubular maximum for glucose (TmG) and what is Splay?
 Explain with diagram. (2.5 +2.5marks)
- 4. Functions of Juxtaglomerular apparatus



Firstranker's choice