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### CS/B.Tech/BME(0)/SEM-3/BME-302/2012-13 2012

### **HUMAN PHYSIOLOGY - I**

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

# **GROUP - A**( Objective Type Questions )

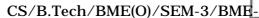
- 1. Answer any *ten* of the following :  $10 \times 1 = 10$ 
  - (A) Write brief answers for the following:
    - i) Define cardiac output.
    - ii) Write the functions of Neutrophil & Lymphocyte.
    - iii) What is rigor mortis?
    - iv) Name the junctional tissue of heart.
    - v) What is neuromuscular junction?

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Whech							
(B)	B) Choose the correct alternatives for the following:						
	vi)	In .	A Blood group the	agg	glutinin(s) present in		
		serum is/are					
		a)	α	b)	β		
		c)	$\alpha$ and $\beta$	d)	no agglutinins.		
	vii)	The time required for one normal cardiac cycle is					
		a)	0·4 sec	b)	0⋅2 sec		
		c)	0.8 sec	d)	0·7 sec.		
	viii)	Einthoven's triangle is associated with					
		a)	EEG	b)	ECG		
		c)	EMG	d)	none of these.		
	ix)	Fibrinogen is a					
		a)	Carbohydrate	b)	Fat molecule		
		c)	Plasma protein	<b>d</b> )	CNS stimulant.		
	x)	Axon hillock is found in					
		a)	nephron	b)	neuron		
		c)	heart valve	d)	DNA.		
	xi)	Gas	eous exchange oc	curs	between blood and		
		surroundings body tissues through					
		a)	Venules	b)	Arterioles		
		c)	Capillaries	d)	none of these.		



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#### **GROUP - B**

### ( Short Answer Type Questions )

Answer any three of the following.

 $3 \times 5 = 15$ 

- 2. What is cardiac cycle? Write different phases and intervals of cardiac cycle. 2+3
- 3. What is ESR? What are the normal rates of ESR in normal men and women? Briefly explain anemia. 2 + 1 + 2
- 4. Explain the functional unit of kidney. What are the important functions of kidney? 3+2
- 5. What is synapse? Describe it with diagram. What are its important functions? 3 + 2
- 6. Write down the composition of blood. Explain the functions of various plasma proteins. 3+2

# **GROUP - C** (Long Answer Type Questions)

Answer any *three* of the following.  $3 \times 15 = 45$ 

- 7. Discuss the mechanism of cross-bridge during the muscular contraction and write the role of T-system in muscular contraction. 10 + 5
- 8. What is mutation? Define spontaneous mutation and induced mutation. Describe tautomeric and mutagenic substitution methods of gene mutation. 3 + 4 + 8

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