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Invigilator's Signature : .....

## CS/B.Tech(BME-N)/SEM-3/BME-302/2011-12

### 2011

# **ENGINEERING PHYSIOLOGY & ANATOMY**

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

### (Multiple Choice Type Questions)

1. Choose the correct alternatives for the following :

 $10 \times 1 = 10$ 

- i) Biopotential generated by the muscle of the heart results
  - a) EMG b) EEG
  - c) ECG d) none of these.
- ii) Hemoglobin transports CO<sub>2</sub> by forming
  - a) oxyhemoglobin b) carboxyhemoglobin
  - c) carbaminohemoglobin d) methemoglobin.
- iii) Blood group determining antigens are present
  - a) on RBC surface b) on platelets
  - c) in plasma d) in bone marrow.

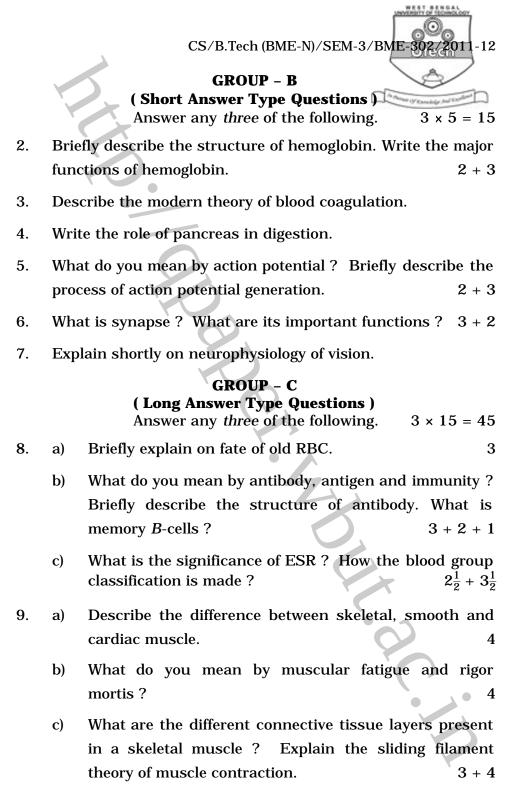
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iv) The structural functional unit of nervous system is						
Y	a)	brian	b)	nephron		
	C)	spinal cord	d)	neuron.		
v)	Pul	monary artery carries				
	a)	mixed blood	b)	oxygenated blood		
	c)	lymph	d)	deoxygenated blood.		
vi)	The	e largest digestive gland	of th	e human body is		
	a)	liver	b)	pancreas		
	c)	small intestine	d)	stomach.		
vii)	The	e solid connective tissue	e of tł	ne body is		
	a)	blood	b)	tendon		
	c)	ligament	d)	bone.		
viii)	Cells responsible for dim light vision are					
	a)	rod cells	b)	pyramidal cells		
	c)	betz cells	d)	cone cells.		
ix)	In i	nfants, the condition of	рурс	othyroidism is called		
	a)	Graves disease	b)	Cretinism		
	c)	Cushing's disease	d)	Addison's disease.		
x)	Fre	ely movable joints are c	alled			
	a)	Synovial joints	b)	Fibrous joints		
	c)	Amphiarthrosis	d)	Synarthrosis.		

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- 10. How do diaphragm and intercostals muscles play role in the mechanism of respiration ? How does skin play role in the process of thermoregulation. 10 + 5
- 11. With suitable diagram describe the EM structure of neuromuscular junction. Write the mechanism of nerve impulse transmission through N-M junction. 7 + 8
- 12. What are the factors that regulate blood pressure ? How is blood pressure regulated by feedback mechanism? 6 + 9
- 13. Write short notes on any three of the following :  $3 \times 5$ 
  - Mechanism of hearing a)
  - Synaptic transmission of nerve impulse b)
  - Heart valves and their functions c)
  - Electron microscopic structure of nephron d)
  - **Erythropoiesis** e)
  - **f**) Skin and sweat gland.

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