



J-7792

Seat No. _____

First Year Physiotherapy Examination

July – 2019

Human Physiology

Time : 3 Hours]

[Total Marks : 100

Instructions :

- (1) Write answers of each section in separate answer books.
- (2) Draw necessary diagrams.
- (3) Illegible writing will not fetch any marks.
- (4) Figures to the right indicate marks of that question.

SECTION - I

- 1** Discuss on any two : **20**
- 1) Define Erythropoiesis. Describe stages and factors affecting it.
 - 2) Define cardiac cycle. Describe pressure and volume changes during it.
 - 3) Describe excitation contraction coupling mechanism in skeletal muscle.
- 2** Write briefly on any two : **10**
- 1) Juxtaglomerulus apparatus
 - 2) Functions of gastric juice
 - 3) Acclimatization
- 3** Write in short on any five : **10**
- 1) What is jaundice ?
 - 2) What is immunity ?
 - 3) Define cardiac output and cardiac index.
 - 4) What is Chronaxie? Write it's significant.
 - 5) What is pacemaker of heart ? And why ?
 - 6) What is Residual volume ? It's normal value.

4 Give answers of following MCQs from given options : 10

- 1) Which of following is known as "digestive system " of cell?
 - a) Nucleus
 - b) Nucleolus
 - c) Golgi apparatus
 - d) Lysosome
- 2) Normal value of WBC count is :
 - a) 4-5 millions/cumm
 - b) 1-4 lacs/cumm
 - c) 4000-11000/cumm
 - d) 8-9 millions/cumm
- 3) Oncotic pressure of plasma is due to:
 - a) Albumin
 - b) Fibrinogen
 - c) Electrolytes
 - d) prealbumin
- 4) Which of the following muscle is voluntary action :
 - a) Skeletal muscle
 - b) single unit smooth muscle
 - c) Cardiac muscle
 - d) Multiunit smooth muscle
- 5) Atrial depolarization in ECG is seen as :
 - a) P-wave
 - b) QRS complex
 - c) T-wave
 - d) ST segment
- 6) Fetal haemoglobin has:
 - a) 2 alpha and 2 delta chains
 - b) 2 alpha and 2 beta chains
 - c) 2 alpha and 2 gamma chains
 - d) 2 alpha chains
- 7) The lung volume which measured by using spirometer is :
 - a) Residual volume
 - b) Total lung capacity
 - c) Inspiratory reserve volume
 - d) Functional residual capacity
- 8) How much amount of O₂ carry by 1 gm of Hb :
 - a) 1.34 ml
 - b) 3.5 ml
 - c) 2.5 ml
 - d) 4 ml
- 9) In a healthy adult male, the cardiac output is :
 - a) 3 L/min
 - b) 3 L/sec
 - c) 5 L/min
 - d) 5 U/sec
- 10) Intrinsic factor is secreted in :
 - a) Intestine
 - b) Pancreas
 - c) Stomach
 - d) Liver

SECTION - II

- 5 Discuss on any two : 20
- 1) What is Neuromuscular junction ? Describe transmission through neuromuscular junction in detail.
 - 2) Enumerate posterior pituitary hormones. Describe ADH in detail.
 - 3) Describe functions of hypothalamus.
- 6 Write briefly on any two : 10
- 1) Errors of refraction
 - 2) Parathyroid hormone
 - 3) Muscle spindle.
- 7 Write in short on any five : 10
- 1) What is homeostasis ?
 - 2) What is refractory period ?
 - 3) What is milk ejection reflex ?
 - 4) What is spermatogenesis ? Enumerate factors affecting it.
 - 5) What is Refractive index ?
 - 6) What is Frank starling law ?
- 8 Give answers of following MCQs from given options : 10
- 1) Receptor for color vision :
 - a) Rods
 - b) cones
 - c) haircell
 - d) free nerve ending
 - 2) FSH is secreted by :
 - a) Sertoli cells
 - b) anterior pituitary
 - c) Epididymis
 - d) Seminiferous tubules
 - 3) Which of the following eye structure having highest refractive index ?
 - a) Cornea
 - b) Lens
 - c) Aqueous humour
 - d) Vitreous humour

- 4) Which of the following hormone act through gene expression ?
- a) Prolactin b) Thyroid
c) Vasopressin d) Growth hormone
- 5) Normal GFR :
- a) 150ml/min b) 125ml/min
c) 225ml/min d) 200ml/min
- 6) Name of amino acid involved in synthesis of thyroid hormone :
- a) Glycine b) Glutamic acid
c) Tyrocine d) Valine
- 7) Fast conducting nerve fibre :
- a) $A\alpha$ b) $A\beta$
c) C d) unmyelinated nerve fibre
- 8) Anosmia means :
- a) absent taste b) absent vision
c) absent smell d) memory loss
- 9) Bonny ossicle is found in :
- a) External ear b) Middle ear
c) Inner ear d) Cochlea
- 10) AV nodal delayis :
- a) 0.2 sec b) 0.3 sec
c) 0.1 sec d) 0.4 sec
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