



**DI-003-038101**

Seat No. \_\_\_\_\_

**First Year B. Voc. (MLMDT) (CBCS) (Sem. I)  
Examination**

**April / May - 2015**

**Medical Laboratory &  
Molecular Diagnostic Technology  
Paper-MLMDT-1.1 : Fundamentals of  
Anatomy & Physiology**

**Faculty Code : 003**

**Subject Code : 038101**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

- Instructions :** (1) There are two sections. Both are compulsory.  
(2) Answers of Section-1 are to be written in main answer sheet only.

**SECTION - I**

- 1 Multiple Choice Questions : 20**
- (1) Intercalated discs are characteristic of which of the following tissue?  
(a) Skeletal muscle  
(b) Smooth muscle  
(c) Cardiac muscle  
(d) All of the above
- (2) Sigmoid colon and rectum are found in which of the cavity?  
(a) Cranial cavity (b) Abdominal cavity  
(c) Thoracic cavity (d) Pelvic cavity
- (3) Which tissue is involved in Insulation?  
(a) Stratified epithelium  
(b) Adipose tissue  
(c) Liquid connective  
(d) None

- (4) Which of the following factor is first to get activated during coagulation?
- (a) Factor - XII            (b) Factor - X  
(c) Factor - XI            (d) Factor - IX
- (5) The arteries supplying blood to the tissue of the heart are the :
- (a) Renal arteries  
(b) Coronary arteries  
(c) Myocardial arteries  
(d) Vena cava
- (6) All the following apply to the bicuspid valve except:
- (a) It is also called the mitral valve  
(b) It is a semi lunar valve  
(c) It is found on the left side of the heart  
(d) It prevents blood from backing into the left atrium
- (7) Type II cells of walls of alveoli
- (a) Trap dust and debris  
(b) Kills the bacteria  
(c) Secrete surfactant  
(d) Produce mucus
- (8) Complete the following statement using the choices below. Air moves out of the lungs when the pressure inside the lungs is
- (a) Less than the pressure in the atmosphere.  
(b) Greater than the pressure in the atmosphere.  
(c) Equal to the pressure in the atmosphere.  
(d) Greater than the intra-alveolar pressure.

- (9) Which one of the following secreted by posterior pituitary regulates water retention by the kidneys?
- (a) Antidiuretic hormone
  - (b) Aldosterone
  - (c) Thyroxine
  - (d) Erythropoietin
- (10) All of the following are normal constituents of urine EXCEPT
- (a) Glucose
  - (b) Uric acid
  - (c) Creative
  - (d) Ketone bodies
- (11) This organ stores the liver's digestive juices until they are needed by the intestines.
- (a) Pancreas
  - (b) Villi
  - (c) Gall bladder
  - (d) Spleen
- (12) Which one of the following is not the function of liver ?
- (a) Detoxification of the drugs
  - (b) Stores the nutrient
  - (c) Produces the insulin
  - (d) Glycogen storage
- (13) Which of the following is not a neurotransmitter ?
- (a) Aspartate
  - (b) Acetyl choline
  - (c) Glutamate
  - (d) Acetyl serine

- (14) The brain part which contains grey matter outside and not inside is
- (a) Cerebrum and midbrain
  - (b) Cerebrum and Cerebellum
  - (c) Cerebrum and Medulla Oblongata
  - (d) Only cerebrum
- (15) What is a condition of elevated pressure in the eye due to the obstruction of the flow of aqueous humor?
- (a) Strabismus
  - (b) Glaucoma
  - (c) Conjunctivitis
  - (d) Cataracts
- (16) The \_\_\_\_\_ gland oversees metabolism and growth, while the \_\_\_\_\_ oversees immune responses.
- (a) Parathyroid, thymus
  - (b) Gonads, thyroid
  - (c) Adrenals, thyroid
  - (d) Thyroid, thymus
- (17) The hormone, produced in the seminiferous tubules, that is an indicator of sperm count is \_\_\_\_\_
- (a) Follicle stimulating hormone (FSH)
  - (b) Inhibin
  - (c) Luteinizing hormone
  - (d) Testosterone
- (18) Which hormone is responsible for formation of corpus luteum in the ovary ?
- (a) Progesterone
  - (b) LH
  - (c) Estrogen
  - (d) All of the above

- (19) The protein that makes up the thin filaments in striations in skeletal muscle is known as \_\_\_\_\_
- (a) Actin                      (b) Neuron  
(c) Myosin                      (d) Troponin
- (20) Muscles are attached to bones by \_\_\_\_\_
- (a) Insertion couplers  
(b) Ligaments  
(c) Tendon  
(d) Other muscles

## SECTION - II

- 2** (A) Answer in brief : (Any 3) **6**
- (1) Write the types of epithelial tissues.  
(2) Write the normal composition of human blood.  
(3) Define: Heart rate and stroke volume.  
(4) What are the functions of intercostal muscles in respiratory system ?  
(5) Enlist the enzymes and hormones produced by pancreas.  
(6) Write the functions of ADH hormone.
- (B) Answer in brief : (Any 3) **9**
- (1) Discuss serous membrane and its location in human body.  
(2) Draw neat diagrams of granulocytes.  
(3) Explain the stages of cardiac cycle.  
(4) Write the functions of alveoli.  
(5) Write the functions of gastric juice.  
(6) Define tubular reabsorption and explain its role in urine formation.

(C) Answer in detail : (Any 2) 10

- (1) Describe the conducting system of heart.
- (2) Describe a nephron and explain the functions of its major parts.
- (3) Explain the mechanism of respiration.
- (4) Describe the chemical digestion in small intestine.
- (5) Explain the mechanism of blood clotting.

3 (A) Answer in brief (Any3) 6

- (1) Draw a labeled diagram of multipolar myelinated neuron.
- (2) Write the functions of seminal vesicles.
- (3) Name the types of muscles and write their characteristics.
- (4) Define adduction and abduction.
- (5) Write the functions of retina.
- (6) Enlist the parts of inner ear.

(B) Answer in brief (Any 3) 9

- (1) Differentiate between spinal nerves and cranial nerves.
- (2) Enlist the hormones of pituitary gland.
- (3) Write the functions of liver.
- (4) Describe role of prostate gland in male reproductive system.
- (5) Draw the labeled structure of skeleton muscle.
- (6) Define hormone. Distinguish between endocrine and exocrine glands.

(C) Answer in detail (Any 2)

10

- (1) Describe the mechanism of synapse.
  - (2) Discuss acid-base balance mechanism.
  - (3) Discuss functions of ovary associated with various hormones.
  - (4) Explain mechanism of muscle contraction.
  - (5) With a neat diagram describe structure and functions of skin.
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