INSTITUTE OF INDIGENOUS MEDICINE, UNIVERSITY OF COLOMBO

DEGREE OF BACHELOR OF AYURVEDA MEDICINE AND SURGERY

FIRST PROFESSIONAL ANNUAL (ON LINE) EXAMINATION
DECEMBER 2020 – JANUARY 2021

Subject – Shareera Kriya - Part II (Physiology and Biochemistry)

Date: 30. 12. 2020 **Time:**

Structured Essay Questions **Answer all questions.**

1. Name the following Starling's forces operating at the systemic capillary beds:

a) Highest fluid formation force

b) Highest fluid absorption pressure

2.

a) What is the substance mainly responsible for plasma oncotic pressure?

b) What is the reason for presence of ankle oedema in left ventricular failure?

3.

a) Absorption of what nutrient is facilitated by the gastric intrinsic factor?

b) Reduced synthesis of which substance is the cause of presence of macrocytes in blood in folic acid synthesis?

4.

a) What fraction of the haemoglobulin molecule is converted to bilirubin?

b) Bound to what molecule bilirubin is transported to the liver from the spleen?

c) Name the clinical sign caused by high bilirubin level in blood.

5.

a) What chemical substance prevents collapse of the alveoli during expiration?

b) What is the main determinant of saturation of hemoglobin with oxygen as per oxygen dissociation curve?

6.

a) What is the most important muscle for inspiration at rest?

b) What is responsible for expiration at rest?

7.

a) What is responsible for creating diastolic blood pressure?

b) List two (02) areas of circulating that depends on diastolic blood supply?

8. Name three (03) mechanisms responsible for high renal medullary osmolarity.

9. List three (03) mechanisms of short term systemic arterial blood pressure control.

10.

a) What metabolite of the vitamin D influences blood calcium level?

b) What hormone causes the above metabolic conversion?

11.

a) List two (02) roles of bile salts

b) What converts bilirubin to stercobilin?

12.

a) What are the two (02) types of type of neuronal signal summation?

b) Name three (03) neurotransmitters

13. A 56 year old man ataxic (tendency to fall on walking).

List four (04) possible sites where the underlying abnormality presents?

14.

a) List three (03) metabolic activities/reactions inhibited by of insulin

b) List two (02) metabolic reactions stimulated by insulin

15. Name the three active forms of vitamin A

16. Give an example for flowing stages/structures of proteins

a) Primary stage

b) Secondary stage

c) Tertiary stage

d) Quaternary structure

17. Name the type of inhibition (either competitive, noncompetitive or irreversible) which occurs in followings

a) Use of ethanol as an antidote in methanol poising

b) Use of organophosphate (malathion) as an insecticide

c) Use of sulfonamides as antibiotic

d) Use of allopurinol as a treatment in gouty arthritis

18. Name the rate limiting enzymes of glycolysis

19. Name the responsible body organ/location for flowing isozymes

a) Creatine kinase - MB

b) Creatine kinase – MM

c) Creatine kinase - BB

d) Lactate dehydrogenase -1 (LDH1)

20. Mention the method/mode of transportation of following situations

a) Glucose absorption into small intestinal cells

b) Glucose absorption in to red blood cells

c) Entering oxygen in to red blood cells