

Marks Scored:

KATHMANDU UNIVERSITY
End Semester Examination
August/September, 2017

Level : B. Pharm.
Year : II

Course : PHAR 212
Semester : II

Exam Roll No. : Time: 30 mins.

F. M. : 20

Registration No. :

Date SEP 16 2017

SECTION "A"

[20Q × 1 = 20 marks]

Tick [✓] the correct answer.

1. It is an example of mechanoreceptors
[a] Free nerve endings [b] Aortic body
[c] Cochlea [d] Taste buds
2. Group IA nerve fiber belongs to this subtype of general classification
[a] A α [b] A β [c] A γ [d] C
3. Continuous feeling of suffering due to pain is because of stimulation of this area of brain
[a] Thalamus [b] Reticular area
[c] Periaqueductal grey [d] Raphe nucleus
4. Aqueous humor is synthesized from
[a] Ciliary muscle [b] Iris [c] Canal of Schlemm [d] Trabeculae
5. Pigmented layer of retina is important
[a] To attach retina to choroid [b] To prevent reflection of light
[c] To give color to the eye [d] To excite photoreceptors
6. Brodmann area 41 is the area for
[a] Language [b] Somatic sensation [c] Hearing [d] Taste
7. Signal from cortex to putamen is sent through
[a] Acetylcholine [b] GABA [c] Serotonin [d] Dopamine
8. All of the following are the conditions that increase aldosterone without affecting cortisol secretion except
[a] High potassium intake [b] Hemorrhage
[c] Standing [d] Low sodium intake
9. Less than 5% of heat from the body is lost through
[a] Evaporation [b] Radiation [c] Conduction to air [d] Conduction to objects
10. All of the followings are the effects of sympathetic stimulation except
[a] Bronchodilation [b] Erection [c] Ejaculation [d] Lipolysis
11. All of the following hormones acts through G protein coupled receptors except
[a] ACTH [b] Gastrin [c] Ang II [d] GH

12. One of the followings is true about Merkle's disc
[a] Rapidly adapting [b] Abundant in lips, tongue
[c] Responsible for discriminative touch [d] Sensation is poorly localized
13. Positive free water clearance indicates
[a] Hyposmotic urine [b] Hyperosmotic urine
[c] Isosmotic urine [d] No change in urine concentration
14. Which of the following statements is true?
[a] Kidneys are located inside the peritoneal cavity
[b] Kidneys lie at the level of T13 to L3
[c] Renal artery enters the kidney through hilum
[d] Blood flow to the kidneys is about 40% of the cardiac output
15. Which of the following parts of nephron is the site of action of loop diuretics?
[a] Descending limb of loop of Henle [b] Thick ascending limb of loop of Henle
[c] Thin ascending limb of loop of Henle [d] Distal convoluted tubule
16. All statements are false except.....
[a] Proteins are important extracellular buffers
[b] Decrease in PCO₂ occurs in respiratory acidosis
[c] Buffering power of phosphate buffer is lesser than of bicarbonate buffer
[d] Higher the alveolar ventilation, higher the PCO₂
17. Which of the following substances is not reabsorbed but is further secreted from peritubular capillaries into renal tubules?
[a] Glucose [b] Organic acids [c] Urea [d] Amino acids
18. Which of the following statements is true?
[a] Acute acidemia increases calcium binding to albumin
[b] Hypercalcemia can lead to spastic skeletal muscle contractions by increasing neuromuscular excitability
[c] Parathyroid hormone decreases release of calcium from bones
[d] Calcium reabsorption is stimulated by metabolic acidosis
19. Paraaminohippuric acid clearance can be used to estimate
[a] Glomerular filtration rate [b] Creatinine clearance
[c] Renal plasma flow [d] Reabsorption rate
20. Vaginal sponge is atype of contraceptive
[a] Hormonal [b] Surgical [c] Mechanical [d] Chemical

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SEP 10 2017

Level : B. Pharm.
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SECTION "B"

[5 Q. × 3 = 15 marks]

Answer *ANY FIVE* questions. Explain with graphs and figures where ever required.

1. Draw nerve pathways of sympathetic system.
2. Give an account on Diabetes Mellitus.
3. Discuss on anatomical and physiological division of cerebellum with their functions.
4. Why does glomerular capillary membrane restrict passage of proteins?
5. Write a short note on "Intrarenal acute renal failure".
6. Clarify the effect of gonadotropin releasing hormone on processes of testosterone secretion and spermatogenesis.
7. If Hydrogen ions are in excess to bicarbonate ions, how are the excess hydrogen ions excreted in the urine?

SECTION "C"

[5 Q. × 5 = 25 marks]

Answer *ANY FIVE* questions.

8. What are the different types of memory? How does consolidation of memory take place? What is anterograde amnesia?
9. Give an account on polysynaptic reflex. What are golgi tendon organs?
10. Illustrate the pathways of synthesis of all the adrenocortical hormones.
11. "Vestibular apparatus is an organ for equilibrium", elaborate.
12. Describe the factors regulating tubular reabsorption of kidneys.
13. Describe in detail the factors that can alter potassium distribution between intracellular fluid and extracellular fluid.
14. Give a detail on the hormones used as a diagnostic test for pregnancy. What are the events that occur after fertilization of the ovum till it gets implanted in the uterus? (3+2)

SECTION "D"
[2 Q. × 7.5 = 15 marks]

Answer *ANY TWO* questions.

15. What are the different types of sensory receptors? How does receptor potential generate in response to pressure in the skin. Explain the pathways for different types of sensation up to the higher center.
16. Describe all the processes involved in making renal medullary interstitium hyperosmotic.
17. a. How does the image of an object in the retina is carried to the visual cortex. Explain the different clinical conditions that may occur due to lesion in any part of this pathway. [4]
b. Compensatory responses in metabolic acidosis and respiratory acidosis. [3.5]