

KATHMANDU UNIVERSITY  
End Semester Examination  
January/February 2024

Marks Scored:

Level : B.Pharm.  
Year : II

28 JAN 2024

Course : PHAR 218  
Semester : I

Exam Roll No. :

Time: 30 mins.

F. M. : 20

Registration No.:

Date :

SECTION "A"  
[20Q. × 1 = 20 marks]

Choose and encircle the most appropriate option from each set of choices

- This is the outermost layer of epidermis  
a. Stratum germinativum  
b. Stratum granulosum  
c. Stratum lucidum  
d. Stratum corneum
- Heat exchange between the objects at different temperature that are in contact with each other occurs by which of the following method?  
a. Radiation  
b. Conduction  
c. Convection  
d. Evaporation
- Stimulation of sympathetic innervation will result in  
a. Increased in basal metabolism  
b. Relaxation of trigone  
c. Constriction of bronchi  
d. Constriction of pupil
- Which of the following hormone belongs to group II classification depending on its mechanism of action?  
a. Cortisol  
b. Thyroxin  
c. Insulin  
d. Calcitriol
- Which of the hormones originates in anterior pituitary?  
a. Dopamine  
b. TSH  
c. Oxytocin  
d. Somatostatin
- In Graves' disease, which of the blood level of thyroid-stimulating hormone (TSH) is typically decreased?  
a. TSH  
b. T3  
c. T4  
d. DIT
- Which of the following factor is a potent inhibitor of glucagon?  
a. Hypoglycemia  
b. Hyperglycemia  
c. Arginine  
d. Lysine
- Which enzyme is most likely responsible in a patient with increased aldosterone production?  
a. 17- $\alpha$  hydroxylase  
b. 21-hydroxylase  
c. 11- $\beta$  HSD  
d. Aldosterone synthase
- Injury in hypothalamus most likely to affect  
a. Temperature regulation  
b. Decision making  
c. Coordination of movement  
d. Short term memory

10. Mechanoreceptors that maintain muscle tone, posture and equilibrium are
  - a. Nociceptors
  - b. Cutaneous receptors
  - c. Proprioceptors
  - d. Free nerve endings
11. All of the following reflexes are monosynaptic **EXCEPT**
  - a. Knee jerk
  - b. Abdominal reflex
  - c. Supinator reflex
  - d. Biceps jerk
12. The tube that runs from middle ear to the throat is called
  - a. External auditory canal
  - b. Tympanic cavity
  - c. Eustachian tube
  - d. Auricle
13. A cornea transplant is never rejected in humans because
  - a. It consists of enucleated cells
  - b. It is a nonliving layer
  - c. It has no blood supply
  - d. Its cells are less penetrated by bacteria
14. The center of kidney where urine collects before leaving the kidney is
  - a. Glomerulus
  - b. Renal pelvis
  - c. Distal tubule
  - d. Proximal tubule
15. The kidney secretes ....., which is an enzyme –hormone that rises BP.
  - a. Aldosterone
  - b. Angiotensinogen
  - c. Renin
  - d. Angiotensin II
16. What cause urine to flow from kidney to the bladder?
  - a. Gravity
  - b. Hydrostatic pressure
  - c. Peristalsis
  - d. Osmotic pressure
17. Which of the following is the location where fertilization occurs ?
  - a. Ovaries
  - b. Vagina
  - c. Uterus
  - d. Fallopian tube
18. Cryptorchidism is the condition when
  - a. Testes do not descend into scrotum
  - b. There are two testes in each scrotum
  - c. Testes degenerates in the scrotum
  - d. Testes enlarges in the scrotum
19. As menstruation ends, estrogen level in blood rises rapidly. What is the source of estrogen?
  - a. Corpus luteum
  - b. Endometrium
  - c. Developing follicle
  - d. Anterior pituitary gland
20. Which of the enzyme catalyzes the formation of 25-hydroxycholecalciferol (25-OH-D3) in the liver ?
  - a. 1 $\alpha$  hydroxylase
  - b. 25 hydroxylase
  - c. 24 hydroxylase
  - d. 7-dehydrocholesterol reductase

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SECTION "B"  
[5 Q. × 3 = 15 marks]

Attempt *ANY FIVE* questions.

1. Explain the different factors that affects the body temperature.
2. Write notes on Cushing's syndrome.
3. Elaborate on micturition reflex.
4. Write notes on slow wave sleep.
5. Elaborate on putamen circuit of basal ganglia.
6. Explain the pathway that carries sensation of discriminative touch up to the brain.
7. Draw a well labelled diagram of human eye.

SECTION "C"  
[5Q. × 5 = 25 marks]

Attempt *ANY FIVE* questions.

8. Give an account on parasympathetic nervous system.
9. Elaborate on the mechanism of synthesis of vitamin D in the human body and mention its actions.
10. Elaborate on any 3 types of hypothyroidism.
11. Give an account on mechanism of action and functions of insulin.
12. Give an account on polysynaptic reflexes.
13. Explain in detail about counter current exchange and multiplier.
14. Explain the detailed structure of cochlea and how it functions for the detection of sound.

SECTION "D"  
[2 Q. × 7.5 = 15 marks]

Attempt *ANY TWO* questions.

15. Write down the process of biosynthesis, mechanism of action and functions of aldosterone.
16. Write in detail about descending pathways that are present in the human body.
17. Elaborate in detail about ovarian, endometrial and hormonal cycle of female reproductive system.