

KATHMANDU UNIVERSITY
End Semester Examination
June/July, 2023

Marks Scored:

Level : B.Pharm.

Year : II

Exam Roll No. :

Time: 30 mins.

Course : PHAR 218

Semester : I

F. M. : 20

Registration No.:

Date **3: 0 JUN 2023**

SECTION "A"

[20Q. × 1 = 20 marks]

Encircle the most appropriate alternative from the given set of choices.

1. It is an inhibitory neurotransmitter
a. Norepinephrine b. Glycine c. Glutamate d. Acetylcholine
2. These are mechanoreceptors except
a. Carotid bodies b. Carotid sinus c. Golgi tendon d. Merkel disc
3. It is classified into group Ia sensory fibers
a. Golgi tendon organ b. Annulospiral endings
c. Flower spray endings d. Type C fiber
4. All of the following about photoreceptors are true **EXCEPT**
a. Inner segment contains cytoplasmic organelles
b. Photochemicals are present in inner segment
c. Vitamin A is important precursor of rodopsin
d. Outer segment is leaky to sodium ion
5. Damage to the optic chiasma leads to
a. Right eye blindness b. Bitemporal hemianopia
c. Homonymous hemianopia d. Damaged color vision
6. Attenuation of sound in inner ear is done by
a. Tympanic membrane b. Oval window
c. Muscle in the middle ear d. Cochlea
7. Sour taste in the tongue is caused by
a. H⁺ ion b. Na⁺ ion c. Sugar d. Umami
8. All of the following about the sense of smell is True **EXCEPT**
a. Receptors are olfactory cells
b. Receptors cannot undergo adaptation
c. Sense of smell is carried by first cranial nerve
d. Lateral olfactory area receive signal directly bypassing thalamus
9. Which of the following is **FALSE** about vestibular apparatus?
a. Semicircular canal lies 90° to each other
b. There are only stereocilia in the hair cells
c. Enlarged semicircular duct is called ampull
d. Macula detects orientation of head with respect to gravity

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30 JUN 2023

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Time : 2 hrs. 30 mins.

Course : PHAR 218
Semester : I
F. M. : 55

SECTION "B"
[5Q. × 3 = 15 marks]

Attempt *ANY FIVE* questions.

1. Give an account on glial cells.
2. Write notes on referred pain.
3. Give an account on Brown Sequard Syndrome.
4. Explain on memory according to types of information stored.
5. List out the hormones released by hypothalamus and pituitary gland.
6. What are the functions of estrogen?
7. Elaborate how HCO_3^- helps in acid base balance.

SECTION "C"
[5Q. × 5 = 25 marks]

Attempt *ANY FIVE* questions.

8. Elaborate in detail about the pain pathways.
9. Explain the functional anatomy of muscle spindle. How does it help in maintaining tone?
10. Highlight on the association areas of brain.
11. Give an account on REM sleep. Explain about the distribution of stages of sleep in children.
12. Elaborate the ovarian cycle in detail along with the hormonal changes.
13. Write down the process of formation and maturation of sperm.
14. Give an account on mineralocorticoides along with its synthesis, mechanism and functions.

SECTION "D"
[2Q. × 7.5 = 15 marks]

Attempt *ANY TWO* questions.

15. Elaborate on monosynaptic, golgi tendon organ and polysynaptic reflex.
16. Elaborate on secretion, mechanism of action, actions and effects of insulin in the body. Also list out the factors that increases and decreases insulin release.
17. Explain in detail about the counter current exchange and multiplier. Differentiate between cortical and juxtamedullary nephrons. [6+1.5]