

**Madhya Pradesh Medical Science University,
Jabalpur
MBBS First Professional Examination April-2022
Subject- Physiology
Paper-II**

Time: 3:00 Hours

Max. Marks: 75

- a) All questions are compulsory**
- b) Draw diagrams wherever necessary**
- c) Answers of Questions and Sub-questions must be written strictly according to serial order of question paper.**
- d) MCQ has to be answered in theory answer book**
- e) Please write MCQ answer neatly and in serial order with black or blue pen in brackets; for example: - 1. (a) 2. (c)**
- f) MCQ has to be answered only once, any kind of repetition or cutting or erasing or whitener will be considered as malpractice, such answers will not be counted in marks and action will be taken according to UFM rules of university.**

Q1. Total MCQs: 20

1. The part of vestibule that prevents a person from falling while suddenly turning is

- (a) saccule
 - ~~(b) utricle~~
-

- (c) cochlea
(d) semicircular canals
2. An effective temporary method of contraception in females is
- (a) tubectomy
(b) vasectomy
(c) IUCD
(d) condom
3. Prolactin synthesis and secretion may be inhibited by
- (a) dopamine
(b) serotonin
(c) substance P
(d) all of the above
4. The refractory power of the reduced eye is
- (a) 64 diopters
(b) 14 diopters
(c) 41 diopters
(d) 59 diopters
5. Smooth muscle is different from skeletal muscle because smooth muscle
- (a) can be voluntarily contracted
(b) is found in the walls of arteries
(c) has many nuclei in a cell
(d) has intercalated disc between the cells
6. The highest density of voltage-gated ion channels is found on which part of neuron
- (a) dendrites
-

- (b) soma
 - (c) nodes of Ranvier
 - (d) internodes
7. What is the function of luteinizing hormone
- (a) it stimulates Leydig cells to produce testosterone
 - (b) it stimulates Sertoli cells to produce sperms
 - (c) it stimulates the anterior pituitary to release FSH
 - (d) it stimulates the ovary to develop follicles
8. Which one of the following is NOT a secondary sex characteristic
- (a) the adult male body shape
 - (b) the thicker vocal cords of a male
 - (c) pubic hair
 - (d) penis
9. Primary auditory cortex is in Brodmann's area
- (a) 37
 - (b) 41
 - (c) 43
 - (d) 47
10. The laboratory report shows values of gonadotropin and ovarian hormones of the blood sample taken, on day 20 of menstrual cycle of a young woman. Whether the cycle was ovulatory or not will be assessed by serum levels of
- (a) FSH
 - (b) LH
 - (c) estradiol
-

(d) progesterone

11. Which of the following organs has maximum % of growth in first two years of life

- (a) brain
- (b) kidney
- (c) gonads
- (d) liver

12. The first change to occur in a sharp cut nerve is

- (a) chromatolysis
- (b) Schwann cell proliferation
- (c) degeneration of myelin sheath
- (d) degeneration of neurilemma

13. All of the following are regulated by hypothalamus except

- (a) food intake
- (b) hypophysis
- (c) anticipatory rise in heart rate
- (d) temperature

14. Lower and upper lethal core temperatures respectively are

- (a) 26 and 43.5°C
- (b) 5°C below and above normal
- (c) 30°C and 41°C
- (d) 7°C below and above normal bodytemperature

15. Not an effect of glucagon

- (a) stimulates glycogenolysis
 - ~~(b) hormone of abundance~~
-

- (c) mobilizes glucose
(d) promotes gluconeogenesis
16. Olfactory receptors are
- (a) sensitive to physical stimuli
 - (b) rapidly replaced
 - (c) slowly adapting
 - (d) bipolar neurons
17. All the following mechanisms lead to an increase in body heat loss EXCEPT
- (a) cutaneous vasodilation
 - (b) sweating
 - (c) increased respiration
 - (d) curling up
18. The gap between the plasma membranes of a neuron that conducts and incoming signal and the cell that is going to receive the signal is known as
- (a) neuromuscular junction
 - (b) intercellular cleft
 - (c) synaptic cleft
 - (d) intercalated disc
19. Experimental diabetes mellitus is caused by
- (a) alloxan
 - (b) prostaglandin F
 - (c) radioactive iron
 - (d) gold metal
20. Weber Fechner law deals with
- (a) frequency discrimination
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- (b) receptive field organization
- (c) intensity discrimination
- (d) two-point discrimination

Q2. Short Answer Questions

10 x 5 = 50

- a. Describe visual pathway with the help of a well labeled diagram
- b. Enumerate and describe professional qualities and roles of a physician
- c. Calcitonin
- d. Addison's disease
- e. Draw a well labeled diagram of muscle spindle and functions of muscle spindle
- f. Short note on memory
- g. Explain Young-Helmholtz theory of color vision
- h. Properties of receptors
- i. What are the differences between pyramidal and extrapyramidal tracts
- j. Sex differentiation and their abnormalities

Q3. Long Answer Questions

3 x 10 = 30

- a. Define and classify synapse. Describe synaptic inhibition in detail. Add a note on subliminal fringe
- b. Describe the connections and functions of cerebellum.

Add a note on clinical features of cerebellar disorders

c. What is menstrual cycle. Describe briefly the various phases

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