

# Madhya Pradesh Medical Science University, Jabalpur

1<sup>st</sup> MBBS Examination December 2019

Paper Code:-19BM0000100551

Subject: Physiology-I

Time : 03 Hours

Maximum Marks : 50

## Instructions:

- 1) All questions are compulsory
- 2) Draw diagrams wherever necessary.
- 3) Answers of Questions and Sub questions must be written strictly according to the serial order of question paper, otherwise the question shall not be valued
- 4) Do not write anything on the blank portion of the question paper. If written anything, such type of act will be considered as an attempt to resort to unfair means.

## Q. 1. Long Answer Question

2X 5 = 10

- a. A female aged 31 years gave birth to a male baby after 7 months of pregnancy. Baby showed difficulty in breathing with tachypnea and flaring of nostrils just after birth.
- 1- Diagnose the condition.
  - 2- Explain the physiological basis of the condition.
- b. Describe in brief Erythropoiesis.

## Q.2. Short Answer Question

10 X 3 = 30

- Properties of cardiac muscles.
- Wiggers diagram.
- Chemical regulation of respiration.
- Regulation of gastric acid secretion.
- Determinants of GFR.
- Role of distal tubules and collecting ducts in excretion of concentrated urine.
- Enteric nervous system.
- Steatorrhoea.
- Coronary blood flow.
- Rapid control of blood pressure

## Q.3. Very Short Answer Question

10 X 1 = 10

- Enumerate gastrointestinal hormones.
- Role of carbonic anhydrase in RBC.
- Milieu interior.
- Humoral immunity.
- Rh Incompatibility.
- Apoptosis.
- Cytoplasmic contents of thrombocytes.
- Mechanisms involved in hemostasis.
- FEV1
- Role of 2,3 DPG

# Madhya Pradesh Medical Science University, Jabalpur

1<sup>st</sup> MBBS Examination December 2019

Paper Code:-19BM0000100552

Subject: Physiology-II

Time : 03 Hours

Maximum Marks : 50

## Instructions:-

- 1) All questions are compulsory
- 2) Draw diagrams wherever necessary.
- 3) Answers of Questions and Sub questions must be written strictly according to the serial order of question paper, otherwise the question shall not be valued
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## Q. 1. Long Answer Question

2X 5 = 10

- a. A 27-year old patient displays uncoordinated movements when asked to walk across the examination room. You Ask him to stand still with his eyes closed and note marked swaying back and forth. When he opens his eyes the swaying persists. Vibration sense is normal on all four limbs. When he is asked to touch his nose by index finger, he exhibits overshooting.
  - Given the clinical picture of the case.
  - Which portion of the brain is likely to be damaged?
  - What are the functions of this portion of brain?
- b. Describe synthesis, secretion and function of thyroid hormone. Add a note on cretinism.

## Q.2. Short Answer Question

10 X 3 = 30

- a. Functions of growth hormone
- b. Operant conditioning
- c. Muscle spindle
- d. Properties of synapse
- e. Principle connections and functions of basal ganglia
- f. Pain pathway and gate control theory of pain
- g. Role of long term potentiation in memory
- h. Trace the visual pathway and the effects of lesion at various points in the pathway.
- i. Menstrual cycle
- j. Properties of skeletal muscle

## Q.3. Very Short Answer Question

10 X1 = 10

- a. Name the nuclei responsible for hunger and satiety in human being.
- b. Wernicke's aphasia
- c. Motor unit
- d. Taste receptor
- e. Circadian rhythm
- f. Name the four hormones which increase the blood glucose level
- g. Core body temperature
- h. Mechanism of action of oral contraceptive pill
- i. Endo cochlear potential
- j. Enumerate indicators of ovulation

# Madhya Pradesh Medical Science University, Jabalpur

1<sup>st</sup> MBBS Examination August 2019

Paper Code:-19AM0000100552

Subject: **PHYSIOLOGY-II**

Time : 03 Hours

Maximum Marks : 50

## Instructions:

- 1) All questions are compulsory
- 2) Draw diagrams wherever necessary.
- 3) Answers of Questions and Sub questions must be written strictly according to the serial order of question paper, otherwise the question shall not be valued
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### Q. 1. Long Answer Question

2 X 5 = 10

- a. A 55 years old male had attended OPD. Her wife explained the complaints of her husband as his speech was slurred and there was impaired coordination of movements as well as unsteady gait but no resting tremors.
- (a) What will be the diagnosis ?
  - (b) Name two tests in support of diagnosis.
  - (c) Functions of cerebellum.
- b. Describe Mechanism of hearing.

### Q.2. Short Answer Question

10 X 3 = 30

- a. Muscle spindle.
- b. Functions of thyroxine.
- c. Response of vestibular apparatus for linear and rotational acceleration.
- d. Excitation contraction coupling.
- e. Regulation of blood sugar. Add a note on C-peptide.
- f. Synthesis of steroid hormone.
- g. Placental hormones.
- h. Discuss the effect of oral contraceptive pills on ovarian function.
- i. What are functions of Sertoli cells.
- j. Define memory. What are the types of memory.

### Q.3. Very Short Answer Question

10 X 1 = 10

- a. Difference between heat exhaustion and heat stroke.
- b. Astereognosis.
- c. Generator potential.
- d. Stapedial reflex.
- e. Tests of ovulation.
- f. Motor unit.
- g. Skin circulation.
- h. Evoked potential.
- i. EMG.
- j. Dysgeusia.

**Maanya Praaesh Medical Science University, Jabalpur**  
**1<sup>st</sup> MBBS Examination 2018 (Summer Session)**  
**Paper Code:- 18AM0000100551**  
**Subject: Physiology -I**

**Maximum Marks : 50**

**Time : 03 Hours**

**Instructions:**

- 1) All questions are compulsory
- 2) Draw diagrams wherever necessary.
- 3) Answers of Questions and Sub questions must be written strictly according to the serial order of question paper, otherwise the question shall not be valued
- 4) Do not write anything on the blank portion of the question paper. If written anything, such type of act will be considered as an attempt to resort to unfair means.

**2X 5 = 10**

**Q. 1. Long Answer Question**

- a. Describe basis of blood grouping . discuss in short clinical importance of blood grouping. Add a note on blood banking
- b. Describe cardiac cycle in short. What are the pressure and volume changes in different chambers of the heart and nearby blood vessels connected to it?. Add a note on heart sounds

**10 X 3 = 30**

**Q2 Short Answer Question**

- a. How do cardiac and skeletal muscles differ structurally and functionally
- b. Discuss importance of spirometry in diagnoses of pulmonary diseases
- c. Counter current multiplication of osmolality in the loop of henle
- d. Describe the process of micturation
- e. Acid secretion in stomach. Add a note on chemical gastrectomy
- f. Entero hepatic circulation of bile salts
- g. How is ventilation of lungs carried out?
- h. Describe transfer of oxygen from lungs to tissues
- i. Describe in short role of neutrophils against invading organisms
- j. Regulation of arteriolar tone

**10 X 1 = 10**

**Q3 Very Short Answer Question**

- a. Functions of blood platelets and their clinical importance
- b. Typical ECG trace
- c. Aquaporins
- d. Non excretory functions of kidneys
- e. Segmentation movement in gut
- f. Daltons law of partial pressure
- g. Forces governing capillary exchange of fluids
- h. Define anaemia. What is the most common type of anaemia in India?
- i. Glucose dependent insulinotropic hormone (GIP)
- j. Properties of active transport

**Maanya Praesh Medical Science University, Jabalpur**  
**1<sup>st</sup> MBBS Examination 2018 (Summer Session)**  
**Paper Code:- 18AM0000100552**  
**Subject: Physiology -II**

**Time : 03 Hours**

**Maximum Marks : 50**

**Instructions:**

- 1) All questions are compulsory
- 2) Draw diagrams wherever necessary.
- 3) Answers of Questions and Sub questions must be written strictly according to the serial order of question paper, otherwise the question shall not be valued
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**Q. 1. Long Answer Question**

**2X 5 = 10**

- a. Describe functions of cerebellum. Add a note on cerebellar ataxia
- b. A female obese patient 46 year of age attended OPD with complaints of excessive hunger, thirst, urination and weakness. On the basis of above symptoms answer the following questions:-
  - I. Probable diagnosis of the condition
  - II. Investigation to confirm the diagnosis
  - III. Underlying physiological mechanism of the diagnosed disease.

**Q2 Short Answer Question**

**10 X 3 = 30**

- a. What is a synapse? What are the properties of synapses?
- b. Describe the process of pain sensation. Add a note on referred pain
- c. Discuss the learning process
- d. Functional anatomy of the basal ganglia. Describe its connections in brief
- e. Defects of image forming mechanism of eye (Errors of refraction)
- f. Draw a labeled diagram of organ of corti
- g. Ovarian changes in menstrual cycle
- h. Describe in brief spermatogenesis and its regulation
- i. Describe the role of muscle spindle in maintenance of skeletal muscle tone
- j. Describe the basis of Erlanger & Gasser's classification of nerve fibers

**Q3 Very Short Answer Question**

**10 X 1 = 10**

- a. Myasthenia gravis
- b. Role of hypothalamic hypophyseal axis
- c. Physiological basis of use of estrogen as oral contraceptive pills
- d. Consensual light reflex
- e. Visual evoked potential (VEP)
- f. Types of taste
- g. Enumerate hormones of adrenal cortex
- h. Define Chronaxie & rheobase
- i. Importance of counter current blood flow in skin
- j. Enumerate modes of heat transfer

**M-1203**

**First M. B. B. S. (Professional) Examination,  
Feb.-March 2015**

**PHYSIOLOGY**

***Paper : First***

***Time Allowed : Three hours***

***Maximum Marks : 50***

***Minimum Pass Marks : 25***

***Note : Attempt all questions in serial order.***

1. Write about synthesis and regulation of secretion of thyroid hormone in detail. 10
  
2. Write in brief on : 2×5=10
  - (a) Enlist various autoimmune disorders. Describe any two mechanisms responsible for development of these disorders.

(b) Tubulo glomerular feedback and glomerulotubular balance.

3. Write in brief :

2×10=20

(a) Describe secretion of HCl by parietal cells and factors affecting secretion of HCl.

(b) Define GFR. Write in details about factors affecting GFR.

4. Write True/False against the statements given below : 5×1=5

(a) Osmotic diuresis can be produced by mannitol.

(b) Sperms acquires motility in seminal vesicles.

(c) Gastric secretion is increased by distension of stomach.

(d) Liver produces gamma globulins.

(e) Immunization of a infant from mother's milk is a form of natural active immunity.

5. Fill in the blanks :

5×1=5

(a) Cholera toxin acts through G proteins and stimulate the  $G_s$  to increase ..... levels in the enterocytes.

(b) Decrease ECF  $Ca^{++}$  concentration leads to a disorder called as .....

- (c) Unfertilized ovum remains viable for ..... days in the Fallopian tube.
- (d) Maximum production of HCG occurs during ..... trimester.
- (e) Hypoxia stimulates the erythrocyte production in bone marrow by producing ..... hormone.