

[MBBS 0825]

AUGUST 2025

Sub. Code: 7053

M.B.B.S. DEGREE EXAMINATION
(For the candidates admitted from the Academic Year 2024-2025)

FIRST PROFESSIONAL – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 527053

Time: 20 Minutes

Maximum : 20 Marks

Answer All Questions

Shade the correct answer with Black or Blue ink ball point pen

SET - A

IV. Multiple Choice Questions:

(20 x 1 = 20)

- The release of hormones and neurotransmitters is an example of
A) Active Transport B) Vesicular Transport
C) Facilitated Diffusion D) Pinocytosis
- The indicator used for the measurement of Plasma volume is
A) Inulin B) Deuterium C) Evans Blue D) Radio-labelled Chromium
- Resting Membrane Potential of thick Spinal motor neurons
A) -30 mV B) -45 mV C) -90 mV D) Fluctuating
- Microcytic Hypochromic Anaemia is a features of
A) Thalassemia B) Acute Blood loss
C) Pernicious anaemia D) Sickle Cell anaemia
- 18 years old Anjali, complaints of recurrent painful joint swelling, associated with profuse menstrual bleeding during her cycles. A diagnosis of Haemophilia was made. Coagulation abnormality seen in a patient with Haemophilia B disease is
A) Prolonged PT B) Normal PT C) Normal APTT D) Prolonged APTT
- Which protein blocks the myosin-binding site on actin in resting skeletal muscle?
A) Myosin B) Actin C) Troponin D) Tropomyosin
- Fast-twitch muscle fibers (Type II) are characterized by:
A) High myoglobin content B) Slow contraction velocity
C) High resistance to fatigue D) Anaerobic metabolism
- Which is true about smooth muscle contraction?
A) Relies exclusively on troponin for calcium binding B) Uses calmodulin instead of troponin
C) Requires somatic motor nerve stimulation D) Is faster than skeletal muscle contraction
- Sarcomere length is decided by the length of
A) A band B) I band C) H band D) M line
- Which of the following is the correct sequence of layers in the wall of the gastrointestinal tract from inner to outer?
A) Submucosa → Mucosa → Muscularis externa → Serosa
B) Mucosa → Submucosa → Muscularis externa → Serosa
C) Serosa → Muscularis externa → Submucosa → Mucosa
D) Muscularis externa → Mucosa → Serosa → Submucosa

11. 18 years old Mr. Praveen, A II MBBS students while preparing for his exams complaints of recurrent epigastric pain. Recurrent he is skipping his regular meals and taking pain killers for his headache. Which cell is responsible for secreting hydrochloric acid in the stomach
 A) Chief cells B) G cells C) Parietal cells D) Mucous neck cells
12. 40 years old Kumaran, a known alcoholic experienced sudden onset of intractable abdominal pain. His serum amylase and lipase levels are elevated. A diagnosis of acute pancreatitis was made out which enzyme is secreted in its active form by the pancreas?
 A) Trypsin B) Chymotrypsin C) Amylase D) Carboxy peptidase
13. The defecation reflex is initiated primarily by:
 A) Entry of food into the stomach B) Distention of the rectum
 C) Secretion of bile into the duodenum D) Inhibition of sympathetic tone
14. Urea recycling is crucial for:
 A) Maintaining acid-base balance B) Driving the countercurrent exchanger
 C) Facilitating obligatory water loss D) Enhancing medullary osmolarity for urine concentration
15. The kidneys regulate extracellular fluid H^+ concentration through all the three fundamental mechanisms except
 A) Direct H^+ secretion B) Bicarbonate excretion
 C) Bicarbonate reabsorption D) Production of new bicarbonates
16. 65 years old male met with road traffic accident and sustained head injuries. Following recovery he developed a Syndrome of Inappropriate Secretion of Anti diuretic Hormone (SIADH). Which of the following is true regarding vasopressin (ADH)?
 A) It is synthesized in the posterior pituitary
 B) It increases water reabsorption via aquaporin-1 channels
 C) It increases blood volume by acting on the collecting ducts
 D) It increases potassium reabsorption
17. The majority of circulating thyroid hormones in blood are:
 A) In the free form B) Bound to thyroxine-binding globulin (TBG)
 C) Bound to Transthyretin D) Bound to thyroxine-binding prealbumin (TBPA)
18. In a case of severe osteoporosis, Calcium supplements with Vitamin-D are prescribed. Which organ is responsible for the final activation of vitamin D to calcitriol (1,25-dihydroxycholecalciferol)?
 A) Liver B) Kidney C) Intestine D) Skin
19. Capacitation of sperm occurs:
 A) In the epididymis B) In the seminal vesicle
 C) In the female genital tract D) Inside the seminiferous tubules
20. 28 years old female, a case of recurrent abortions was evaluated and a diagnosis of luteal phase defect was made out. She was advised to have hCG injections from the next conception. hCG maintains corpus luteum during:
 A) The follicular phase B) The early stages of pregnancy
 C) Postmenopausal period D) Menstrual phase

[MBBS 0825]

[MBBS 0825]

AUGUST 2025

Sub. Code: 7053

M.B.B.S. DEGREE EXAMINATION
(For the candidates admitted from the Academic Year 2024-2025)

FIRST PROFESSIONAL – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 527053

Time: 20 Minutes

Maximum : 20 Marks

Answer All Questions

Shade the correct answer with Black or Blue ink ball point pen

SET - B

IV. Multiple Choice Questions:

(20 x 1 = 20)

- 18 years old Anjali, complaints of recurrent painful joint swelling, associated with profuse menstrual bleeding during her cycles. A diagnosis of Haemophilia was made. Coagulation abnormality seen in a patient with Haemophilia B disease is
A) Prolonged PT B) Normal PT C) Normal APTT D) Prolonged APTT
- Which protein blocks the myosin-binding site on actin in resting skeletal muscle?
A) Myosin B) Actin C) Troponin D) Tropomyosin
- Fast-twitch muscle fibers (Type II) are characterized by:
A) High myoglobin content B) Slow contraction velocity
C) High resistance to fatigue D) Anaerobic metabolism
- Which is true about smooth muscle contraction?
A) Relies exclusively on troponin for calcium binding B) Uses calmodulin instead of troponin
C) Requires somatic motor nerve stimulation D) Is faster than skeletal muscle contraction
- Sarcomere length is decided by the length of
A) A band B) I band C) H band D) M line
- Which of the following is the correct sequence of layers in the wall of the gastrointestinal tract from inner to outer?
A) Submucosa → Mucosa → Muscularis externa → Serosa
B) Mucosa → Submucosa → Muscularis externa → Serosa
C) Serosa → Muscularis externa → Submucosa → Mucosa
D) Muscularis externa → Mucosa → Serosa → Submucosa
- 18 years old Mr. Praveen, A II MBBS students while preparing for his exams complaints of recurrent epigastric pain. Recurrent he is skipping his regular meals and taking pain killers for his headache. Which cell is responsible for secreting hydrochloric acid in the stomach
A) Chief cells B) G cells C) Parietal cells D) Mucous neck cells
- 40 years old Kumaran, a known alcoholic experienced sudden onset of intractable abdominal pain. His serum amylase and lipase levels are elevated. A diagnosis of acute pancreatitis was made out which enzyme is secreted in its active form by the pancreas?
A) Trypsin B) Chymotrypsin C) Amylase D) Carboxy peptidase
- The defecation reflex is initiated primarily by:
A) Entry of food into the stomach B) Distention of the rectum
C) Secretion of bile into the duodenum D) Inhibition of sympathetic tone

10. Urea recycling is crucial for:
 - A) Maintaining acid-base balance
 - B) Driving the countercurrent exchanger
 - C) Facilitating obligatory water loss
 - D) Enhancing medullary osmolarity for urine concentration
11. The kidneys regulate extracellular fluid H^+ concentration through all the three fundamental mechanisms except
 - A) Direct H^+ secretion
 - B) Bicarbonate excretion
 - C) Bicarbonate reabsorption
 - D) Production of new bicarbonates
12. 65 years old male met with road traffic accident and sustained head injuries. Following recovery he developed a Syndrome of Inappropriate Secretion of Anti diuretic Hormone (SIADH). Which of the following is true regarding vasopressin (ADH)?
 - A) It is synthesized in the posterior pituitary
 - B) It increases water reabsorption via aquaporin-1 channels
 - C) It increases blood volume by acting on the collecting ducts
 - D) It increases potassium reabsorption
13. The majority of circulating thyroid hormones in blood are:
 - A) In the free form
 - B) Bound to thyroxine-binding globulin (TBG)
 - C) Bound to Transthyretin
 - D) Bound to thyroxine-binding prealbumin (TBPA)
14. In a case of severe osteoporosis, Calcium supplements with Vitamin-D are prescribed. Which organ is responsible for the final activation of vitamin D to calcitriol (1,25-dihydroxycholecalciferol)?
 - A) Liver
 - B) Kidney
 - C) Intestine
 - D) Skin
15. Capacitation of sperm occurs:
 - A) In the epididymis
 - B) In the seminal vesicle
 - C) In the female genital tract
 - D) Inside the seminiferous tubules
16. 28 years old female, a case of recurrent abortions was evaluated and a diagnosis of luteal phase defect was made out. She was advised to have hCG injections from the next conception. hCG maintains corpus luteum during:
 - A) The follicular phase
 - B) The early stages of pregnancy
 - C) Postmenopausal period
 - D) Menstrual phase
17. The release of hormones and neurotransmitters is an example of
 - A) Active Transport
 - B) Vesicular Transport
 - C) Facilitated Diffusion
 - D) Pinocytosis
18. The indicator used for the measurement of Plasma volume is
 - A) Inulin
 - B) Deuterium
 - C) Evans Blue
 - D) Radio-labelled Chromium
19. Resting Membrane Potential of thick Spinal motor neurons
 - A) -30 mV
 - B) -45 mV
 - C) -90 mV
 - D) Fluctuating
20. Microcytic Hypochromic Anaemia is a features of
 - A) Thalassemia
 - B) Acute Blood loss
 - C) Pernicious anaemia
 - D) Sickle Cell anaemia

[MBBS 0825]

[MBBS 0825]

AUGUST 2025

Sub. Code: 7053

M.B.B.S. DEGREE EXAMINATION
(For the candidates admitted from the Academic Year 2024-2025)

FIRST PROFESSIONAL – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 527053

Time: 20 Minutes

Maximum : 20 Marks

Answer All Questions

Shade the correct answer with Black or Blue ink ball point pen

SET - C

IV. Multiple Choice Questions:

(20 x 1 = 20)

1. The kidneys regulate extracellular fluid H^+ concentration through all the three fundamental mechanisms except
A) Direct H^+ secretion
B) Bicarbonate excretion
C) Bicarbonate reabsorption
D) Production of new bicarbonates
2. 65 years old male met with road traffic accident and sustained head injuries. Following recovery he developed a Syndrome of Inappropriate Secretion of Anti diuretic Hormone (SIADH). Which of the following is true regarding vasopressin (ADH)?
A) It is synthesized in the posterior pituitary
B) It increases water reabsorption via aquaporin-1 channels
C) It increases blood volume by acting on the collecting ducts
D) It increases potassium reabsorption
3. The majority of circulating thyroid hormones in blood are:
A) In the free form
B) Bound to thyroxine-binding globulin (TBG)
C) Bound to Transthyretin
D) Bound to thyroxine-binding prealbumin (TBPA)
4. In a case of severe osteoporosis, Calcium supplements with Vitamin-D are prescribed. Which organ is responsible for the final activation of vitamin D to calcitriol (1,25-dihydroxycholecalciferol)?
A) Liver
B) Kidney
C) Intestine
D) Skin
5. Capacitation of sperm occurs:
A) In the epididymis
B) In the seminal vesicle
C) In the female genital tract
D) Inside the seminiferous tubules
6. 28 years old female, a case of recurrent abortions was evaluated and a diagnosis of luteal phase defect was made out. She was advised to have hCG injections from the next conception. hCG maintains corpus luteum during:
A) The follicular phase
B) The early stages of pregnancy
C) Postmenopausal period
D) Menstrual phase
7. The release of hormones and neurotransmitters is an example of
A) Active Transport
B) Vesicular Transport
C) Facilitated Diffusion
D) Pinocytosis
8. The indicator used for the measurement of Plasma volume is
A) Inulin
B) Deuterium
C) Evans Blue
D) Radio-labelled Chromium

... 2 ...

9. Resting Membrane Potential of thick Spinal motor neurons
 A) -30 mV B) -45 mV C) -90 mV D) Fluctuating
10. Microcytic Hypochromic Anaemia is a features of
 A) Thalassemia B) Acute Blood loss
 C) Pernicious anaemia D) Sickle Cell anaemia
11. 18 years old Anjali, complaints of recurrent painful joint swelling, associated with profuse menstrual bleeding during her cycles. A diagnosis of Haemophilia was made. Coagulation abnormality seen in a patient with Haemophilia B disease is
 A) Prolonged PT B) Normal PT C) Normal APTT D) Prolonged APTT
12. Which protein blocks the myosin-binding site on actin in resting skeletal muscle?
 A) Myosin B) Actin C) Troponin D) Tropomyosin
13. Fast-twitch muscle fibers (Type II) are characterized by:
 A) High myoglobin content B) Slow contraction velocity
 C) High resistance to fatigue D) Anaerobic metabolism
14. Which is true about smooth muscle contraction?
 A) Relies exclusively on troponin for calcium binding B) Uses calmodulin instead of troponin
 C) Requires somatic motor nerve stimulation D) Is faster than skeletal muscle contraction
15. Sarcomere length is decided by the length of
 A) A band B) I band C) H band D) M line
16. Which of the following is the correct sequence of layers in the wall of the gastrointestinal tract from inner to outer?
 A) Submucosa → Mucosa → Muscularis externa → Serosa
 B) Mucosa → Submucosa → Muscularis externa → Serosa
 C) Serosa → Muscularis externa → Submucosa → Mucosa
 D) Muscularis externa → Mucosa → Serosa → Submucosa
17. 18 years old Mr. Praveen, A II MBBS students while preparing for his exams complaints of recurrent epigastric pain. Recurrent he is skipping his regular meals and taking pain killers for his headache. Which cell is responsible for secreting hydrochloric acid in the stomach
 A) Chief cells B) G cells C) Parietal cells D) Mucous neck cells
18. 40 years old Kumaran, a known alcoholic experienced sudden onset of intractable abdominal pain. His serum amylase and lipase levels are elevated. A diagnosis of acute pancreatitis was made out which enzyme is secreted in its active form by the pancreas?
 A) Trypsin B) Chymotrypsin C) Amylase D) Carboxy peptidase
19. The defecation reflex is initiated primarily by:
 A) Entry of food into the stomach B) Distention of the rectum
 C) Secretion of bile into the duodenum D) Inhibition of sympathetic tone
20. Urea recycling is crucial for:
 A) Maintaining acid-base balance B) Driving the countercurrent exchanger
 C) Facilitating obligatory water loss D) Enhancing medullary osmolarity for urine concentration

[MBBS 0825]

AUGUST 2025

Sub. Code: 7053

M.B.B.S. DEGREE EXAMINATION
(For the candidates admitted from the Academic Year 2024-2025)

FIRST PROFESSIONAL – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 527053

Time: 20 Minutes

Maximum : 20 Marks

Answer All Questions

Shade the correct answer with Black or Blue ink ball point pen

SET - D

IV. Multiple Choice Questions:

(20 x 1 = 20)

1. Capacitation of sperm occurs:
A) In the epididymis
B) In the seminal vesicle
C) In the female genital tract
D) Inside the seminiferous tubules
2. 28 years old female, a case of recurrent abortions was evaluated and a diagnosis of luteal phase defect was made out. She was advised to have hCG injections from the next conception. hCG maintains corpus luteum during:
A) The follicular phase
B) The early stages of pregnancy
C) Postmenopausal period
D) Menstrual phase
3. The release of hormones and neurotransmitters is an example of
A) Active Transport
B) Vesicular Transport
C) Facilitated Diffusion
D) Pinocytosis
4. The indicator used for the measurement of Plasma volume is
A) Inulin
B) Deuterium
C) Evans Blue
D) Radio-labelled Chromium
5. Resting Membrane Potential of thick Spinal motor neurons
A) -30 mV
B) -45 mV
C) -90 mV
D) Fluctuating
6. Microcytic Hypochromic Anaemia is a features of
A) Thalassemia
B) Acute Blood loss
C) Pernicious anaemia
D) Sickle Cell anaemia
7. 18 years old Anjali, complaints of recurrent painful joint swelling, associated with profuse menstrual bleeding during her cycles. A diagnosis of Haemophilia was made. Coagulation abnormality seen in a patient with Haemophilia B disease is
A) Prolonged PT
B) Normal PT
C) Normal APTT
D) Prolonged APTT
8. Which protein blocks the myosin-binding site on actin in resting skeletal muscle?
A) Myosin
B) Actin
C) Troponin
D) Tropomyosin
9. Fast-twitch muscle fibers (Type II) are characterized by:
A) High myoglobin content
B) Slow contraction velocity
C) High resistance to fatigue
D) Anaerobic metabolism
10. Which is true about smooth muscle contraction?
A) Relies exclusively on troponin for calcium binding
B) Uses calmodulin instead of troponin
C) Requires somatic motor nerve stimulation
D) Is faster than skeletal muscle contraction

11. Sarcomere length is decided by the length of
 A) A band B) I band C) H band D) M line
12. Which of the following is the correct sequence of layers in the wall of the gastrointestinal tract from inner to outer?
 A) Submucosa → Mucosa → Muscularis externa → Serosa
 B) Mucosa → Submucosa → Muscularis externa → Serosa
 C) Serosa → Muscularis externa → Submucosa → Mucosa
 D) Muscularis externa → Mucosa → Serosa → Submucosa
13. 18 years old Mr. Praveen, A II MBBS students while preparing for his exams complaints of recurrent epigastric pain. Recurrent he is skipping his regular meals and taking pain killers for his headache. Which cell is responsible for secreting hydrochloric acid in the stomach
 A) Chief cells B) G cells C) Parietal cells D) Mucous neck cells
14. 40 years old Kumaran, a known alcoholic experienced sudden onset of intractable abdominal pain. His serum amylase and lipase levels are elevated. A diagnosis of acute pancreatitis was made out which enzyme is secreted in its active form by the pancreas?
 A) Trypsin B) Chymotrypsin C) Amylase D) Carboxy peptidase
15. The defecation reflex is initiated primarily by:
 A) Entry of food into the stomach B) Distention of the rectum
 C) Secretion of bile into the duodenum D) Inhibition of sympathetic tone
16. Urea recycling is crucial for:
 A) Maintaining acid-base balance B) Driving the countercurrent exchanger
 C) Facilitating obligatory water loss D) Enhancing medullary osmolarity for urine concentration
17. The kidneys regulate extracellular fluid H^+ concentration through all the three fundamental mechanisms except
 A) Direct H^+ secretion B) Bicarbonate excretion
 C) Bicarbonate reabsorption D) Production of new bicarbonates
18. 65 years old male met with road traffic accident and sustained head injuries. Following recovery he developed a Syndrome of Inappropriate Secretion of Anti diuretic Hormone (SIADH). Which of the following is true regarding vasopressin (ADH)?
 A) It is synthesized in the posterior pituitary
 B) It increases water reabsorption via aquaporin-1 channels
 C) It increases blood volume by acting on the collecting ducts
 D) It increases potassium reabsorption
19. The majority of circulating thyroid hormones in blood are:
 A) In the free form B) Bound to thyroxine-binding globulin (TBG)
 C) Bound to Transthyretin D) Bound to thyroxine-binding prealbumin (TBPA)
20. In a case of severe osteoporosis, Calcium supplements with Vitamin-D are prescribed. Which organ is responsible for the final activation of vitamin D to calcitriol (1,25-dihydroxycholecalciferol)?
 A) Liver B) Kidney C) Intestine D) Skin
