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First B.P.TH. (2012) Examination, Winter - 2024 Phase - III
HUMAN ANATOMY

Total Duration : 3 Hours

Total Marks : 80

Instructions : *1) Use **black** ball point pen only.*
*2) **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.*
*3) **All** questions are **compulsory.***
*4) The number to the **right** indicates **full** marks.*
*5) Draw diagrams **wherever** necessary.*
6) Distribution of syllabus in Question Paper is only meant to cover entire syllabus within the stipulated frame. The Question paper pattern is a mere guideline. Questions can be asked from any paper's syllabus into any question paper. Students cannot claim that the Question is out of syllabus. As it is only for the placement sake, the distribution has been done.
7) Use a common answerbook for all sections.

SECTION - A (50 Marks)

1. Short Answer Questions (Solve any 5 out of 6) : **[5 × 3 = 15]**

a) Mention the major openings in the thoracoabdominal diaphragm with their vertebral levels and structures passing through them.
b) Enumerate the posterior relations of kidney.
c) Enumerate the extraocular muscles with their nerve supply.
d) Give classification of white fibers of cerebrum with example of each.
e) Enumerate the structures forming the stomach bed.
f) Enumerate boundaries and contents of cubital fossa.

2. Short Answer Questions (Solve any 5 out of 6) : **[5 × 7 = 35]**

a) Describe the quadriceps muscles- Attachments, nerve supply and actions
b) Describe the hypoglossal nerve- Functional components,course and distribution. **[3 + 4]**
c) What is joint? Give classification of synovial joints with example of each.
d) Write in brief about bronchopulmonary segments of lung with its clinical importance.

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e) Write in brief about internal features of the right atrium of heart and structures opening into it. [5 + 2]

f) Write in brief about supination and pronation movements.

SECTION - B (30 Marks)

3. Long Answer Question (Solve any 1 out of 2) : [1 × 15 = 15]

a) Mention the boundaries and contents of axilla. [3]

Describe the brachial plexus under the following heads

i) Formation and parts [4]

ii) Branches [4]

iii) Applied aspect [4]

b) Describe venous drainage of the lower limb under the following heads

i) superficial and deep veins - course and tributaries [6]

ii) Perforators [3]

iii) Factors helping in venous return [3]

iv) Applied anatomy [3]

4. Long Answer Questions (Solve any 1 Out of 2) : [1 × 15 = 15]

a) Describe the tongue under the following heads

i) Morphology [3]

ii) Muscles [3]

iii) Nerve supply [3]

iv) Lymphatic drainage [3]

v) Applied anatomy [3]

b) Describe the cerebellum under the following heads

i) External features,anatomical & phylogenetic classification [4]

ii) Enumerate the deep nuclei & cells of cerebellum [3]

iii) Connections [4]

iv) Applied anatomy [4]

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First B.P.T.H. (2012) Examination, Winter - 2024 Phase - III
BIOCHEMISTRY

Total Duration : 2 Hours | Total Marks : 40

Instructions : 1) *Use **black** ball point pen only.*
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7) *Use a common answerbook for all sections.*

1. Short Answer Questions (Any 5 Out of 6) : **[5 × 3 = 15]**

a) Write the significance of cAMP as the second messenger.
b) What is nitrogen balance? Write its significance.
c) Name the enzymes and their pattern of elevation in myocardial infarction.
d) Define carbohydrates. Write functions of carbohydrates.
e) Enlist the functional classes of proteins with one example.
f) What are ketone bodies? Name the conditions in which they are excreted in the urine.

2. Short Answer Questions (Any 5 Out of 6) : **[5 × 5 = 25]**

a) Explain the pathway of Urea synthesis. Write the clinical significance of estimation of serum urea.
b) Explain beta-oxidation of fatty acids. Write its energetics with reference to palmitic acid.
c) What are isoenzymes? Write in the brief the clinical significance of isoenzymes.
d) Write the modern classification of enzymes with one suitable example from each class.
e) Write RDA, functions, and deficiency manifestations of Vitamin D.
f) Write functions of Iron and its deficiency manifestations.

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First B.P.T.H. (2012) Examination, Winter - 2024 Phase - III
HUMAN PHYSIOLOGY

Total Duration : 3 Hours | Total Marks : 80

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7) Use a common answerbook for all sections.

SECTION - A (50 Marks)

1. Short Answer Questions (Solve any 5 out of 6) : **[5 × 3 = 15]**

a) Wallerian degeneration.
b) Explain Baroreceptor reflex.
c) Define bleeding time with its normal value. What is the role of platelets in maintaining normal bleeding time?
d) Enumerate the prominent cell organelles. Write in brief structure and function of any one of the cell organelle.
e) Classify various types of Leucocytes present in blood. State the major functions of each.
f) Define homeostasis. Give two examples of positive & negative feedback mechanisms each.

2. Short Answer Questions (Solve any 5 out of 6) : **[5 × 7 = 35]**

a) Give physiologic actions of growth hormone.
b) Define hypoxia. Describe different types of hypoxia.
c) Define referred pain. Give examples of referred pain. Describe theories of referred pain.

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d) Explain the various Lung volumes & capacities. How are applied to differentiate obstructive & restrictive lung diseases?

e) Give the composition and Functions of surfactant. Add a note on respiratory distress syndrome of newborn.

f) Explain the basis of Erythroblastosis foetalis. What are the measures to prevent the condition?

SECTION - B (30 Marks)

3. Long Answer Question (Solve any 1 out of 2) : [1 × 15 = 15]

a) Define Lung Compliance. How is it measured ? Mention the factors affecting lung compliance.

b) Define Cardiac Cycle. Describe various phases of Cardiac Cycle. Give the pressure & volume changes during the various phases.

4. Long Answer Questions (Solve any 1 Out of 2) : [1 × 15 = 15]

a) Enumerate Ascending and Descending tracts. Give origin, course, termination and functions of pyramidal tracts.

b) Define sarcomere.Explain molecular basis of skeletal muscle contraction with applied importance.

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First B.P.T.H. (2012) Examination, Winter - 2024 Phase - III
FUNDAMENTALS OF KINESIOLOGY AND KINESIOTHERAPY

Total Duration : 3 Hours

Total Marks : 80

Instructions : 1) *Use **black** ball point pen only.*
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7) *Use a common answer book for all sections.*

SECTION - A

1. Short Answer Questions (Solve any 5 out of 6) : **[5 × 3 = 15]**

a) *Classify sensations.*
b) Define Equilibrium. Enumerate its types.
c) Springs in parallel.
d) Write three uses of shoulder wheel.
e) Uses of hanging position.
f) Define Progressive relaxation.

2. Short Answer Questions (Solve any 5 out of 6) : **[5 × 7 = 35]**

a) Enumerate types of suspension therapy. Describe any one in detail.
b) Define free exercises. Discuss its effects and uses.
c) Describe the planes and axis of movements with examples.
d) Describe principles of hydrotherapy.
e) Describe principles for Goniometery. Describe goniometer assessment of wrist joint range of motion.
f) Describe active and passive muscle inefficiency with appropriate examples.

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SECTION - B

3. Long Answer Questions (Solve any 1 out of 2) : **[1 × 15 = 15]**

a) i) Define Starting Position. **[2]**

ii) Explain fundamental standing position with muscle work. **[8]**

iii) Write derived positions from standing. **[5]**

b) i) Write in detail classification of passive movements. **[4]**

ii) Write the principles of relaxed passive movements. **[7]**

iii) Add a note on effects and uses. **[4]**

4. Long Answer Questions (Solve any 1 out of 2) : **[1 × 15 = 15]**

a) i) Define Yoga. **[2]**

ii) Describe principles of Yoga. **[5]**

iii) Explain one sitting and one supine yoga posture in detail with uses of the same. **[4+4]**

b) i) Write about uses of warm up and cool down exercises. **[6]**

ii) Describe the merits of group exercises. **[5]**

iii) Write in detail about organization of group exercises. **[4]**

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First B.P.TH. (2012) Examination, Winter - 2024 Phase - III
FUNDAMENTALS OF ELECTRO THERAPY

Total Duration : 3 Hours

Total Marks : 80

Instructions : 1) Use **black** ball point pen only.
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7) Use a common answer book for all sections.

SECTION - "A" SAQ (50 Marks)

1. Short answer questions (Solve any 5 out of 6) : **[5 × 3 = 15]**

a) What is Electrical skin resistance? Methods to reduce it?
b) Describe the Grid system in power supply.
c) What is the importance of Earthing in electrotherapy lab?
d) What is Cosine Law? Use a diagram
e) Enlist the different modes of heat transfer.
f) What is a Transformer? Give its uses.

2. Short answer questions (Solve any five out of six) : **[5 × 7 = 35]**

a) Describe construction and working in High pressure mercury vapor burner lamp.
b) Describe various field risk factors on prolong exposure to Electromagnetic field.
c) What is Capacitor? Explain types of Capacitor. Give its application.
d) What are contraindications to Cryotheraphy? Explain in detail.
e) Discuss the Classification of currents on the basis of parameters.
f) Explain the evaluation techniques involved in testing thermal sensation? State its importance.

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SECTION - "B" LAQ (30 Marks)

3. **Long answer questions (Solve any one out of two) :** **[1 × 15 = 15]**

a) What is Faradic current? What is the duration and frequency of Faradic current. Explain the types with graphical presentation

b) Write Physical characteristics of Infrared radiation(IR). Write about production of Luminous and Non Luminous IR. Write contraindication to IR treatment.

4. **Long answer questions (Solve any one out of two) :** **[1 × 15 = 15]**

a) Describe the construction and production of Short Wave Diathermy(SWD). Draw and label the panel diagram of SWD.

b) Describe in detail properties and types of LASER.

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