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**First B.P.Th. (2012) Examination, Summer 2017**  
**HUMAN ANATOMY**

Total Duration : Section A+ B = 3 Hours

Total Marks : 80

**SECTION – A & SECTION – B**

**Instructions:** 1) Use **blue/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**  
**(SAQ)**

**(50 Marks)**

1. Short answer question (**any five** out of six) :

**(5×3=15)**

- a) Name the structures forming stomach bed.
- b) Enumerate the constituents of spermatic cord.
- c) Enumerate the structures in the hilum of kidney.
- d) Specify the nerve supply of the extraocular muscles of the eyeball.
- e) Name the arteries supplying a long bone.
- f) Enumerate the branches of arch of aorta.

2. Short answer question (**any five** out of six) :

**(5×7=35)**

- a) Specify the attachments, nerve supply and actions of hamstring muscles.
- b) Explain the anatomical basis of deformity produced in Erb's paralysis.
- c) Specify the commencement, course and termination of left coronary artery.
- d) Specify the attachments, nerve supply and actions of sternocleidomastoid.
- e) Describe the curvatures of vertebral column.
- f) Specify the nerve supply and actions of interossei of hand.

**P.T.O.**

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SECTION – B  
(LAQ)

(30 Marks)

3. Long answer question (**any one** out of two) :

(1×15=15)

a) Describe the medial longitudinal arch of foot under the following headings :

- i) Formation
- ii) Factors responsible for maintenance
- iii) Functions
- iv) Clinical aspects.

b) Describe the median nerve under the following headings :

- i) Formation
- ii) Course
- iii) Distribution and branches
- iv) Applied aspects.

4. Long answer question (**any one** out of two) :

(1×15=15)

a) Describe the internal capsule under the following headings :

- i) Parts
- ii) Tracts passing through
- iii) Blood supply
- iv) Applied aspects.

b) Describe the fourth ventricle of the brain. Add a note on CSF circulation.

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**First B.P.T.H. (2012) Examination, Summer 2017**  
**HUMAN PHYSIOLOGY**

Total Duration : Section A + B = 3 Hours

Total Marks : 80

Section – A & Section – B

- Instructions :**
- 1) Use **blue/black** ball point pen **only**.
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  - 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 (SAQ) (50 Marks)**

1. Short answer question (**any five** out of six) : **(5×3=15)**
  - a) Features of sodium potassium pump.
  - b) State the functions of middle ear.
  - c) Juxta glomerular apparatus.
  - d) Pancreatic juice.
  - e) Functions of plasma proteins.
  - f) Functions of Oxytocin.
2. Short answer question (**any five** out of six) : **(5×7=35)**
  - a) Physiological actions of Thyroid hormone
  - b) State the differences between Fast and Slow muscle fibers.
  - c) Draw a neat and labeled diagram of Oxygen-hemoglobin dissociation curve. Discuss the factors causing its shift to right.
  - d) Functions of cerebellum.
  - e) Draw a neat labeled diagram of ECG in lead II. Describe the various waves, intervals and segments. Clinical uses of ECG
  - f) What are the effects of exercise training on cardio-respiratory system ?

P.T.O.



## Section – B (LAQ) (30 Marks)

3. Long answer question (**any one** out of two) : (1×15=15)
- a) i) What is Cardiac cycle ? 1
  - ii) Describe the atrial and ventricular events of Cardiac Cycle. 9
  - iii) Discuss the various pressure volume changes with the help of diagram. 5
  - b) Enlist the descending tracts. Describe the origin, course, and termination of Pyramidal tract. Differentiate between upper motor neuron and lower motor neuron lesions.
4. Long answer question (**any one** out of two) : (1×15=15)
- a) i) What are the energy sources used during muscle contraction ? 4
  - ii) Describe the molecular mechanism of muscle contraction. 9
  - iii) Add a note on myasthenia gravis. 2
  - b) i) Classification of receptors. 3
  - ii) Discuss the various properties of the receptors. 9
  - iii) Add a note on Phantom limb pain. 3





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First B.P.Th. (2012) Examination, Summer 2017  
**BIOCHEMISTRY**

Total Duration : 2 Hours

Total Marks : 40

- Instructions :**
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  - 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**.

1. Short answer question (any five out of six) :

(5×3=15)

- a) State the deficiency manifestations of vitamin A. *vit*
- b) What are trace elements ? Give functions of any three.
- c) Describe different RNAs and their functions. *p10*
- d) Describe digestion and absorption of proteins. *p10*
- e) State biochemical role of vitamin C along with the deficiency disorders. *vit*
- f) State functions of cholesterol and its significance. *carb*

2. Short answer question (any five out of six) :

(5×5=25)

- a) What is ketosis? Discuss the causes and illeffects of it. *prod*
- b) Describe competitive inhibition of the enzymes with suitable examples. *carb*
- c) Define hyperglycaemia and glycosuria. State the causes of them. *carb*
- d) Explain Beta oxidation of palmitic acid and its energetics. *lipid*
- e) Describe sources, RDA, biochemical role and deficiency manifestations of calcium. *vit*
- f) What are liver function tests? Describe tests of synthetic function-type.

**First B.P.Th. (2012) Examination, Summer 2017**  
**FUNDAMENTALS OF KINESIOLOGY AND KINESIOTHERAPY**

Total Duration : Section A + B = 3 Hours

Total Marks : 80

**SECTION – A & SECTION – B**

- Instructions :**
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  - 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 SAQ (50 Marks)**

1. Short answer question (any five out of six) : (5×3=15)
  - a) Center of gravity
  - b) Bhujangasana
  - c) Shoulder Wheel
  - d) Cool down exercises
  - e) Indication and contraindication to massage
  - f) Universal goniometer.
2. Short answer question (any five out of six) : (5×7=35)
  - a) Friction and its application in physiotherapy
  - b) Group exercises
  - c) Passive movements- Definition, principles, effects and uses



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- d) Principles of Hydrotherapy
- e) Anatomical lever
- f) Ranges of muscle work.

SECTION - B LAQ (30 Marks)

3. Long answer question (any one out of two) : (1×15=15)
- a) Define and classify massage. Describe any one type of manipulation in detail with their effects and uses. (5+6+4)
  - b) Describe fundamental standing position with its muscle work and effects and uses. (5+7+3)
4. Long answer question (any one out of two) : (1×15=15)
- a) Classify suspension therapy. Mention different accessories used in suspension therapy. Write its effects and uses. (4+4+7)
  - b) Describe Axes and planes in detail with examples. Define angle of pull, moment arm of a force and their importance. (6+9)
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**First B.P.T.H. (2012) Examination, Summer 2017**  
**FUNDAMENTALS OF ELECTRO THERAPY**

Total Duration : Section A + B = 3 Hours

Total Marks : 80

**SECTION – A and SECTION – B**

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  - 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 SAQ (50 Marks)**

1. Short answer question (**any five** out of six) : **(5×3=15)**
  - a) State Ohms Law.
  - b) Define capacitance and state its unit.
  - c) State Cosine law.
  - d) State construction of triode valves.
  - e) Define Resting membrane potential.
  - f) Write the production of luminous Infra-red Radiation lamp.
2. Short answer question (**any five** out of six) : **(5×7=35)**
  - a) State the importance of earthing. Add a note on earth shock.
  - b) State the factors affecting skin resistance. Describe methods to reduce skin resistance.
  - c) Differentiate between Faradic current and Galvanic current.
  - d) Enlist the functions of Transformers. Describe the types of Transformers.
  - e) Describe methods of applications of Paraffin Wax Bath.
  - f) Describe construction and working of High Pressure Mercury Vapor Burner lamp.

P.T.O.



**SECTION – B LAQ (30 Marks)**

3. Long answer question (**any one** out of two) : **(1×15=15)**
- a) Define specific heat. Describe therapeutic effects of Cryotherapy. Describe various methods of applications of Cryotherapy. **(2+6+7)**
  - b) Describe various methods of heat transfer. Describe physiological effects of Hydrocolator pack. Describe the construction of Hydrocolator pack. **(3+7+5)**
4. Long answer question (**any one** out of two) : **(1×15=15)**
- a) Describe the production of Ultra Sound. Draw a panel diagram of Ultra Sound. **(10+5)**
  - b) State the therapeutic frequency and wave length of short wave diathermy. Describe the production of Short Wave Diathermy. Draw panel diagram of Short Wave Diathermy. **(2+8+5)**



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**First B.P.Th. (2012) Examination, Winter 2017**  
**HUMAN PHYSIOLOGY**

Total Duration : Section A + B = 3 Hours

Total Marks : 80

**SECTION – A and SECTION – B**

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  - 5) Draw diagrams **wherever** necessary.
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  - 7) Use a common answerbook for **all** Sections.

**SECTION – A SAQ (50 Marks)**

1. Short answer question (**any five** out of six) : (5×3=15)
  - a) State Landsteiner's law. Describe "ABO" blood group system.
  - b) Functions of Liver.
  - c) Errors of refraction.
  - d) Factors affecting Glomerular filtration rate.
  - e) Cushing's syndrome.
  - f) Role of hypothalamus in body temperature regulation.
2. Short answer question (**any five** out of six) : (5×7=35)
  - a) Origin and spread of cardiac impulse.
  - b) Classify the nerve fibers. Add a note on saltatory conduction.
  - c) Explain the 'milk let down' reflex.
  - d) Functions of cerebellum.
  - e) Draw a neat and labeled diagram of oxygen-hemoglobin dissociation curve. State the factors causing the shift to right.
  - f) Define homeostasis. Explain the various feedback mechanisms with examples.

P.T.O.



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SECTION – B LAQ (30 Marks)

3. Long answer question (**any one** out of two) : (1×15=15)

- Describe the contractile and regulatory proteins of the skeletal muscle. Discuss the molecular mechanism of muscle contraction. Add a note on energy sources for muscle contraction.
- Discuss in detail the various properties of skeletal, cardiac and smooth muscle.

4. Long answer question (**any one** out of two) : (1×15=15)

- Define and classify pain. Describe the pain pathways. Add a note on analgesic system of brain.
- Define Cardiac Cycle. Explain in detail the various phases of cardiac cycle. Draw and label the Pressure – Volume curves occurring during cardiac cycle.



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**First B.P.Th. (2012) Examination, Winter 2017**  
**BIOCHEMISTRY**

Total Duration : 2 Hours

Total Marks : 40

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  - 7) **Use** a common answerbook for **all** Sections.

1. Short answer question (**any five** out of six) : (5×3=15)
    - a) Write note on cardiac enzymes.
    - b) Mechanism of steroid hormone action.
    - c) Discuss biochemical events during muscle contraction.
    - d) Define specific Dynamic Action and give its significance.
    - e) Discuss Transamination and its significance. Add a note on diagnostically important Transaminases.
    - f) Give functions of Magnesium and Zinc.
  2. Short answer question (**any five** out of six) : (5×5=25)
    - a) Discuss Diabetes Mellitus and metabolic changes in carbohydrate, protein, lipid in it.
    - b) Give an account of sources, functions, RDA and deficiency manifestations of Vitamin C.
    - c) Discuss Beta-oxidation of fatty acids with its energetics.
    - d) Describe Urea cycle. Discuss its regulation and disorders.
    - e) Define Enzyme Inhibition. Discuss types of inhibition with suitable examples.
    - f) Name the ketone bodies. Discuss the metabolism and significance of ketone bodies.
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