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First B.F.Th. (2012) Exam nation, Winter 2016  
HUMAN PHYSIOLOGY

Total Duration : Section A + B = 3 Hours

Total Marks : 80

## SECTION — A &amp; 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 (SAO) (50 Marks)

1. Short answer question (any five out of six): (5x3=15)
  - a) Classify the different mechanisms of transport across cell membrane.
  - b) Functions of middle ear.
  - c) Factors affecting Glomerular filtration rate.
  - d) Regulation of erythropoiesis.
  - e) Functions of glucocorticoids.
  - f) Composition and functions of gastric juice.
2. Short answer question (any five out of six): (5x7=35)
  - a) Define cardiac output and its regulation.
  - b) Define physical fitness and describe tests for physical fitness.
  - c) Lung compliance.
  - d) Length tension relationship in skeletal muscle.
  - e) Role of chemo-receptors in regulation of respiration.
  - f) Classify nerve fibers and enlist properties of nerve fiber.

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SECTION — B (LAO) (30 Marks)

3. Long answer question (**any one** out of two) : (1 x15.15)
- a) Define sarcoplasmic triad. 1
  - Enlist differences between sarcoplasmic triads of .skeletal and cardiac muscle. 4
  - Discuss Excitation contraction coupling in skeletal muscle contraction. 10
  - b) Define Action potential. 1
  - Draw a well labeled diagram of action potential in nerve fiber. 4
  - Describe ionic basis of action potential in nerve fiber. 10
4. Long answer question (**any one** out of two) : • (1 x15=15'
- a) Enumerate various ascending tracts in the spinal cord. 4
  - Describe pathways for transmission of fine touch from upper arm. 11
  - b) Define blood pressure. 1
  - Classify the mechanisms involved in regulation of blood pressure. 4
  - Describe the short term regulation of blood pressure. 10