**MPT in Neurology [1st Year]**

BF/2015/09

**Review of Basic Sciences**

### MPN-101

### Time : 3 Hours. Max Marks =80

## Section-A

***Note : Attempt any one question which carries 20 marks.***

 **Long Essay**. 1x20=20

1. Discuss about the Brodmanns area of cerebral cortex. Draw the diagram showing the various sulci and gyrii on the medial surface of cerebrum.

 ***OR***

2. Describe the phases of Cardiac cycle in detail. Write a note on Heart Murmurs.

## Section-B

***Note : All Questions are compulsory. Each carries 10 marks.***

 **Short Essay**. 6x10=60

1. Adverse effects of Local Anaesthesia.

2. Fifth Cranial Nerve.

3. Physiology of Synaptic Transmission.

4. Nervous control of Respiration.

5. Energy requirement of an Adult Male.

6. Diabetic Neuropathy.

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 **MPT in Neurology [1st Year]**

BF/2015/09

**Review of Basic Therapeutics**

### MPN-102

### Time : 3 Hours. Max Marks =80

## Section-A

***Note : Attempt any one question which carries 20 marks.***

 **Long Essay**. 1x20=20

1. Discuss in detail about patterns of facilitation used in PNF ?

 ***OR***

2. Discuss in detail about static and dynamic stabilization of shoulder joint ? Explain shoulder impingment ?

## Section-B

***Note : All Questions are compulsory.***

 **Short Essay**. 6x10=60

1. Explain Functional reach test ? Discuss physiotherapy management of improving balance ?

2. Discuss in detail about production and therapeutic effects of ultrasound ? Explain acoustic streaming and cavitation ?

3. Explain Patellofemoral joint reaction forces ? Discuss Q Angle and its significance ?

4. Write short notes on-

1. Carrying angle at Elbow Joint.
2. Contraindications of Hydrotherapy.

5. Explain vocational goals for people with disability ?

6. Discuss in detail about gait deviations in paralysis –

1. Gluteus Medius.
2. Gluteusmaximus.
3. Quardiceps.
4. Tibialis Anterior

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**MPT in Neurology [1st Year]**

BF/2015/09

**Advanced Therapautics and Diagnosis**

### MPN-103

### Time : 3 Hours. Max Marks =80

## Section-A

***Note : Attempt any one question which carries 20 marks.***

 **Long Essay**. 1x20=20

1. What do you mean by EMG-BFB ? Write down about the different types of feedback. How you would improve the balance control ability with biofeedback ?

 ***OR***

2. What do you mean by Sensory Integration ? Explain its components. Also mention how is it helpful in Neurophysiotherapy.

## Section-B

***Note : All Questions are compulsory. Each carries 10 marks.***

 **Short Essay**. 6x10=60

1. What is Neurodynamics ? How would you perform Slump Test ? Explain Slump Test Utility.

2. Discuss about Motor relearning program for Stroke Rehabilitation.

3. Write down about the six stages of recovery in Brunnstorm Approach. Also mention the difference between Brunnstorm & Bobath Technique.

4. How does Laser work in Tissue repair ? Write down its indications & contraindications.

5. Discuss in detail about the eleven principles of PNF technique.

6. Write down in detail about Myofascial release.

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**MPT in Orthopedics [1st Year]**

BF/2015/09

**Review of Basic Sciences**

### MPO-101

### Time : 3 Hours. Max Marks =80

## Section-A

***Note : Attempt any one question which carries 20 marks.***

 **Long Essay**. 1x20=20

1. Describe the mechanism of Muscle Contraction in detail. Write about the types of Muscle Contraction.

 ***OR***

1. Describe the Thyroid and Parathyroid Hormones and response of the hormones to exercise.

## Section-B

***Note : All Questions are compulsory. Each carries 10 marks.***

 **Short Essay**. 6x10=60

1. Ligaments of Spine.

2. Pulmonary Lung Capacities.

3. Conditions affecting Tissue Repair.

4. Cerebral Cortex.

5. Opioids and Non- opioids.

6. Calorific values of Carbohydrates.

-------------------**MPT in Orthopedics [1st Year]**

BF/2015/09

**Review of Basic Therapeutics**

### MPO-102

### Time : 3 Hours. Max Marks =80

## Section-A

***Note : Attempt any one question which carries 20 marks.***

 **Long Essay**. 1x20=20

1. Explain in detail of MMT Procedure and goals for Shoulder joint ?

 ***OR***

2. Define Goniometry with testing position and procedure of Knee joint.

## Section-B

*Note : All Questions are compulsory. Each carries 10 marks.*

 **Short Essay**. 6x10=60

1. Posture.

2. Role of PNF in Neurological Conditions.

3. Cryotherapy and uses in physiotherapy.

4. Contrast Bath.

5. Uses of Intermittent pneumatic compression.

6. Wiplash injury causes and PT management.

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**MPT in Orthopedics [1st Year]**

BF/2015/09

**Advanced Therapautics and Diagnosis**

### MPO-103

### Time : 3 Hours. Max Marks =80

## Section-A

***Note : Attempt any one question which carries 20 marks.***

 **Long Essay**. 1x20=20

1. What is Muscle Energy technique ? What are its various principles and concepts ?

 ***OR***

2. Write an essay on Butler’s technique of Neuro mobilization ?

## Section-B

*Note : All Questions are compulsory. Each carries 10 marks.*

 **Short Essay**. 6x10=60

1. Management of Tracheostomy in an ICU.

2. Concepts, Indications and contraindication of Micro current.

3. Principles of positional release, give example of back extensor technique.

4. Write about end feel both normal and abnormal with examples ?

5. Explain about concept position and application of NAGS, SNAGS for cervical spine.

6. Uses and contraindication of biofeedback.

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**MPT in Sports [1st Year]**

BF/2015/09

**Review of Basic Sciences**

### MPS-101

### Time : 3 Hours. Max Marks =80

## Section-A

***Note : Attempt any one question which carries 20 marks.***

 **Long Essay**. 1x20=20

1. Describe the Energy Metabolism in Cells. Describe the generation of ATP by glycolysis and breakdown of Pyruvate by the tricarboxylic acid cycle.

 ***OR***

2. Describe the mechanism properties of Skeletal Muscles. Describe the force-tension relation and isometric force-tension relationship at different muscle lengths in a skeletal muscle.

## Section-B

***Note : All Questions are compulsory. Each carries 10 marks.***

 **Short Essay**. 6x10=60

1. Describe the Proprioceptors. Draw a well labeled diagram of a Muscle Spindle and GTO.

2. Describe the muscles of Respiration and their role in each cycle of breathing.

3. Describe the Sympathetic Nervous System.

4. Describe the NSAID and their principle of action.

5. Describe the major disorders of Red and White Blood Cells.

6. Describe Hypersensitivity and its types.

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**MPT in Sports [1st Year]**

BF/2015/09

**Review of Basic Therapeutics**

### MPS-102

### Time : 3 Hours. Max Marks =80

## Section-A

***Note : Attempt any one question which carries 20 marks.***

 **Long Essay**. 1x20=20

1. Discuss the advantages and disadvantages of various stretching exercises, specifically manual stretching, self-stretching and mechanical stretching. Under what circumstances would one form be a more appropriate choice than another ?

 ***OR***

2. Discuss about dimensions of field of play and equipments used for game of hockey in detail.

## Section-B

***Note : All Questions are compulsory.***

 **Short Essay**. 6x10=60

1. Explain about Biomechanics of Throwing in detail. [10]

2. Write about normal wheelchair and its modifications in Para Olympic Sports. [10]

3. **Write Short Notes on the following** :-

 (a) Whirlpool Bath. [5]

(b) Isokinetic Dynamometer. [5]

4. What effect tight hamstrings might have on the alignment of the following structures during erect stance: pelvis, lumbosacral angle, hip joint, knee joint and the lumbar region of the vertebral column ? [10]

5. Write about physiological effects, indications and contraindications of MWD. [10]

6. What changes will the condition of genu recurvatum produce at the patellofemoral joint ?

 [10]

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**MPT in Sports [1st Year]**

BF/2015/09

**Advanced Therapautics and Diagnosis**

### MPS-103

### Time : 3 Hours. Max Marks =80

## Section-A

***Note : Attempt any one question which carries 20 marks.***

 **Long Essay**. 1x20=20

1. Explain in detail indirect methods to assess Body Composition.

 ***OR***

2. What are the biomechanical principles of Manipulation ? Explain techniques used for Frozen Shoulder.

## Section-B

***Note : All Questions are compulsory. Each carries 10 marks.***

 **Short Essay**. 6x10=60

1. What is RDI. What will be the RDI for a six months pregnant lady.

2. How does energy transfer take place in the body during exercise ?

3. Write in detail principle, uses and clinical implication of Biofeedback.

4. What will be the adaptations that take place in Neuromuscular System in response to Aerobic training.

5. What is Graded Exercise Stress Test ? Discuss in detail.

6. Explain in detail concept and application techniques of Ayriax.

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**MPT [1st Year]**

BF/2015/09

**Computers, Research Methodology & Biostatistics**

### MP-104

**[Common for all Specialties]**

### Time : 3 Hours. Max Marks =80

 **USE SEPARATE ANSWER SHEET FOR EACH UNIT**

##  UNIT I [60 Marks]

**Research Methodology & Biostatistics**

**NOTE : 1. NON-SCIENTIFIC CALCULATOR IS ALLOWED.**

 **2. LOG TABLE MAY BE USED IF REQUIRED.**

 **Long Essay**. 1x20=20

***Note : Attempt any one question which carries 20 marks.***

1. Elaborate the structure of a research proposal with importance and utility of each structural part.

 ***OR***

2. What is sampling. Enlist the various types of sampling & different factors affecting it.

***Note : All Questions are compulsory. Each carries 10 marks.***

**Short Essay**. 4x10=40

1. Explain levels of measurement with appropriate examples.

2. State students T-test, its properties & application.

3. Define Hypothesis. Explain its characteristics formulate various steps in hypothesis

4. Draw a cumulative frequency curve & an ogive from the data given below

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Scores | 52-55 | 48-51 | 44-47 | 40-43 | 36-35 | 32-35 | 28-31 | 24-27 | 20-23 | 16-19 |
| f | 1 | 0 | 5 | 10 | 20 | 12 | 8 | 2 | 3 | 4 |

## UNIT II [20 Marks]

 **Computer**

1. (a) Draw and explain the block diagram of Computer System. [5]

(b) Explain System software and Application software. Also discuss Operating System. [5]

2. (a) How computers are helpful in different Medical Tests for Human Body. [5]

 (b) How analysis of data can be done using SPSS ? Expalin. [5]

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