

**MANIPAL UNIVERSITY**

**THIRD YEAR B.Sc. R.R.T. & D.T./B.Sc. C.V.T./B.Sc. M.R.T/B.Sc. R.T./B.Sc. M.L.T./  
FOURTH YEAR B.O.T./B.P.T. DEGREE EXAMINATION – JUNE 2016**

**SUBJECT: BIOSTATISTICS & RESEARCH METHODOLOGY/RESEARCH  
METHODOLOGY & STATISTICS/BIOSTATISTICS/ BASIC BIOSTATISTICS &  
RESEARCH METHODOLOGY/RESEARCH METHODOLOGY AND BIOSTATISTICS**

Wednesday, June 01, 2016

Time: 10:00-13:00 Hrs.

Max. Marks: 80

**Answer ALL the questions.**

1. Differentiate between nominal and ordinal variables with examples. (4 marks)
  
2. **Classify the following into the four different scales of measurement:**
  - 2A. Cell counts
  - 2B. Blood group
  - 2C. Pain score
  - 2D. IQ(4 marks)
  
3. **State true or false:**
  - 3A. Pearson's correlation coefficient always takes values  $\geq 0$
  - 3B. Incidence is not affected by the duration of disease
  - 3C. Convenience sampling is a procedure that assures that each element in the population have equal chance of being included in the sample
  - 3D. Health information system is sample based(4 marks)
  
4. At rest pulse rates for 22 athletes at a meet are
 

68	60	78	70	63	68	66	57	74	65	57
66	73	67	68	56	74	64	67	77	72	64

  - 4A. Compute mean, median and range of this data
  - 4B. Construct a frequency distribution table along with relative frequencies for this data using class intervals 55 – 60, 60 – 65, 65 – 70 and so on.
  - 4C. Draw a frequency polygon for the frequency table constructed above.(6+5+4 = 15 marks)

5. Obtain interquartile range for the data regarding number of dental caries in twelve children less than ten years of age.

6 0 2 1 0 4 6 0 4 2 8 3

(8 marks)

6. Define coefficient of variation. Mean and standard deviation of pulse rate for a group of individuals is 76 and 3 beats per minute respectively. The mean and standard deviation of height is 64 and 2 inches respectively. Which of the two characteristics is more consistent?

(5 marks)

7. **Define the following:**

7A. Case fatality rate

7B. Total fertility rate

7C. Crude death rate

(2 marks  $\times$  3 = 6 marks)

8. The amount of weight gained during pregnancy was assessed and was found to be approximately normally distributed with a mean weight gain of 10 kgs and a standard deviation of 3kgs. Calculate the proportion of pregnant women who gained weight.

8A. At most 16 kgs

8B. Between 10 to 13 kgs

8C. At least 7 kgs

(3 marks  $\times$  3 = 9 marks)

9. **Write short notes on:**

9A. Inter rater reliability

9B. Descriptive epidemiology

9C. Systematic sampling

9D. Sample registration system

9E. Components of health information system

(5 marks  $\times$  5 = 25 marks)



## MANIPAL UNIVERSITY

### THIRD YEAR B.P.T./B.O.T. DEGREE EXAMINATION – JUNE 2016

SUBJECT: ORTHOPAEDICS & RHEUMATOLOGY/CLINICAL ORTHOPAEDICS & RHEUMATOLOGY  
(COMMON FOR OLD & 2008 REGULATION/2011 BATCH)

Thursday, June 16, 2016

Time: 10:00-13:00 Hrs.

Maximum Marks: 80

✍ **Answer SECTION “A” and SECTION “B” in two separate answer books.**

#### SECTION “A”: ORTHOPAEDICS/CLINICAL ORTHOPAEDICS: 40 MARKS

1. Describe the pathomechanics, clinical features and management of rotator cuff tear. (10 marks)
  
2. Define cerebral palsy. Describe the management of flexion deformity of the knee in cerebral palsy. (10 marks)
  
3. **Write short notes on:**
  - 3A. Continuous Passive Motion (CPM)
  - 3B. Tennis elbow and its management
  - 3C. Boston brace
  - 3D. Compartment syndrome

(5 marks × 4 = 20 marks)

#### SECTION “B”: RHEUMATOLOGY: 40 MARKS

1. **Write short notes on any FOUR of the following five questions:**
  - 1A. Enumerate clinical features and management of ankylosing spondylitis.
  - 1B. Outline management of acute attack of gout.
  - 1C. Discuss clinical features and management of rheumatoid arthritis.
  - 1D. Outline clinical features and management of osteoarthritis.
  - 1E. Describe clinical features and management of systemic sclerosis.

(5 marks × 4 = 20 marks)

✍ **Answer any TWO FULL questions out of the following three questions:**

- 2A. What are the organisms causing septic arthritis?
- 2B. What are the different investigations done to establish the diagnosis of septic arthritis?
- 2C. What is the medical management of septic arthritis?

(3+3+4 = 10 marks)

- 3A. Enumerate aetiopathogenesis of gout.
- 3B. Enlist clinical features of gout.
- 3C. Discuss Radiographic findings in gout.

(3+4+3 = 10 marks)

- 4A. Enumerate clinical features of psoriatic arthritis.
- 4B. What are the different types of psoriatic arthritis?
- 4C. Discuss the management of psoriatic arthritis.

(3+4+3 = 10 marks)



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**THIRD YEAR B.P.T./B.O.T. DEGREE EXAMINATION – JUNE 2016**

**SUBJECT: NEUROSCIENCES  
(OLD & 2008 REGULATION/2011 BATCH)**

Saturday, June 18, 2016

Time: 10:00-13:00 Hrs.

Maximum Marks: 80

**✍ Answer any FOUR questions. Each question carries TWENTY marks.**

1. Stroke
  - 1A. Risk factors
  - 1B. Symptoms of embolic stroke
  - 1C. Management
  
2. Multiple sclerosis
  - 2A. Etiopathogenesis clinical features
  - 2B. Management
  
3. Neurological manifestation of AIDS
  - 4A. Subdural hematoma
  - 4B. Subarachnoid hemorrhage
  - 4C. Diffuse axonal injury
  - 4D. Brain abscess
  
- 5A. Absence seizures
- 5B. 3<sup>rd</sup> nerve palsy
- 5C. Dysphagia
- 5D. Herpes encephalitis





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### THIRD YEAR B.P.T. DEGREE EXAMINATION – JUNE 2016

#### SUBJECT: PHYSIOTHERAPY IN NEUROSCIENCES (COMMON FOR 2008 & OLD REGULATION)

Tuesday, June 21, 2016

Time: 10:00-13:00 Hrs.

Maximum Marks: 80

✍ **Answer ALL questions.**

1. **Essay questions:**

1A. Describe the postural instability and gait dysfunction in a 52 year old patient with Parkinson's Disease (PD). How do you improve posture in PD patient?

(5+5 = 10 marks)

1B. Write an essay on physiotherapy assessment and management of a 20 year old patient with acute stage Guillian Barre Syndrome (GBS).

(10 marks)

2. **Write short answers:**

2A. What are the causes of shoulder subluxation in hemiplegic patient? Add a note on the methods to treat shoulder subluxation.

2B. What is orthostatic hypotension? Brief about the treatment techniques to manage the same.

2C. Discuss the physiotherapy management for a wheel chair bound child with Duchenne Muscular Dystrophy (DMD).

2D. Discuss the physiotherapy management for a traumatic brain injury patient with the GCS score below 8.

2E. Describe the physiotherapy treatment for a patient with syringomyelia at lower cervical level.

2F. Write a short note on physiotherapy assessment procedures to identify sensory ataxia.

2G. Write about the recovery stages as described by Brunnstrom.

2H. Write a short note on Modified Ashworth Scale (MAS).

(5 marks × 8 = 40 marks)

3. **Write briefly:**

3A. Define: Rhythmic stabilization.

3B. What is associated reaction?

3C. What is the difference between decerebrate and decorticate rigidity?

3D. What is opisthotonus posture?

3E. Write four techniques to prevent sacral bedsore.

3F. Write four techniques to facilitate muscle contraction using deep sensation.

3G. What is dysdiadochokinesia?

3H. Write any two differences between upper motor neuron (UMN) and lower motor neuron (LMN) facial palsy.

3I. Mention any FOUR energy conservation techniques in Myasthenia gravis.

3J. What is Tonic Labyrinthine Reflex (TLR)? Which is the sensory system responsible for TLR?

(2 marks × 10 = 20 marks)



**MANIPAL UNIVERSITY****THIRD YEAR B.P.T. DEGREE EXAMINATION – JUNE 2016****SUBJECT: PHYSIOTHERAPY IN ORTHOPAEDICS AND RHEUMATOLOGY  
(OLD & 2008 REGULATION)**

Thursday, June 23, 2016

Time: 10:00-13:00 Hrs.

Maximum Marks: 80

**✍ Answer ALL questions.****PART-I****1. Essay type questions:**

- 1A. Mention different levels of amputation of lower limb. Explain role of physiotherapy in above knee amputation.
- 1B. What are the causes of radial nerve injury. Explain the role of physiotherapy in case of radial nerve injury at the level of spiral groove.

(10+10 = 20 marks)

**PART-II****2. Write Briefly:**

- 2A. Complications of Colles fracture
- 2B. Enumerate the causes for scoliosis. Explain different types of curves
- 2C. Explain biomechanical factors responsible for development of Patellofemoral pain syndrome
- 2D. Conservative management of D<sub>12</sub> anterior wedge compression fracture without neurological deficit
- 2E. McKenzie Derangement syndrome of lumbar spine
- 2F. Define concave convex rule. Explain joint play motions of Hip Joint
- 2G. Do and Don'ts in total hip replacement
- 2H. Write the Zones of extensor tendon injury of the Hand

(5 marks × 8 = 40 marks)

**PART-III****3. Write very briefly:**

- 3A. Write the features of Volkmann's Ischemic Contracture.
- 3B. What are the features of vertebro-basilar insufficiency?
- 3C. What is Hoffa's syndrome?
- 3D. Explain any two special tests for Thoracic outlet syndrome.
- 3E. What are the stages of Disc prolapse?

- 3F. SACH foot.
- 3G. Explain upper limb neural tissue tension test II
- 3H. Mention the features of Pronator Teres Syndrome
- 3I. Mention types of claudication.
- 3J. Write the features of meniscal injury of the knee.

(2 marks × 10 = 20 marks)





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**THIRD YEAR B.P.T. DEGREE EXAMINATION – JUNE 2016**

**SUBJECT: ETHICS/ADMINISTRATION AND TEACHING SKILLS  
(2008 REGULATION)**

Saturday, June 25, 2016

Time: 10:00-11.30 Hrs

Maximum Marks: 40

✍ **Answer ALL the questions.**

✍ **Essay questions:**

1. Plan the setting up of a physiotherapy department for a 500 bedded hospital. Describe how referrals to physiotherapy can be improved.

(8+2 = 10 marks)

2. **Write short answers:**

- 2A. Consumer service
- 2B. Home health care
- 2C. WCPT rules of ethics
- 2D. Describe teacher's role in following ethical principles

(5 marks × 4 = 20 marks)

3. **Write briefly:**

- 3A. Methods for filing
- 3B. Write ANY TWO measures to maintain patient confidentiality
- 3C. Mention ANY TWO ethical issues with regard to communicable diseases
- 3D. Highlight ANY TWO legal issues with regard to liability
- 3E. Name ANY TWO ethical issues arising while treating patients with disability

(2 marks × 5 = 10 marks)



**MANIPAL UNIVERSITY****THIRD YEAR B.P.T. DEGREE EXAMINATION – JUNE 2016****SUBJECT: COMMUNITY MEDICINE & SOCIOLOGY/SOCIAL & PREVENTIVE  
MEDICINE AND SOCIOLOGY  
(2008 REGULATION/2011 BATCH)**

Tuesday, June 28, 2016

Time 10:00-13:00 Hours

Maximum Marks: 80

✍ **Answer ALL questions.**✍ **Answer SECTION 'A' and SECTION 'B' in TWO separate answer books.****SECTION 'A': COMMUNITY MEDICINE/SOCIAL AND PREVENTIVE MEDICINE: 40 MARKS**✍ **Long question:**

1. Discuss Vitamin A under the following headings: Dietary sources, deficiency disorders, treatment, prevention and control.

(2+3+2+3 = 10 marks)

2. **Short answers:**

- 2A. Explain the concept of Herd immunity with examples  
 2B. 'Pneumoconiosis' and its prevention  
 2C. Risk factors for Non –communicable diseases  
 2D. Levels of prevention with suitable examples  
 2E. Iceberg phenomenon of diseases with examples  
 2F. Advantages and disadvantages of case-control study over cohort study design

(30 marks)

**SECTION 'B': SOCIOLOGY: 40 MARKS**

1. List the health problems of rural and urban communities. Explain their role in public health.

(4+6 = 10 marks)

2. Write the meaning of Socialisation. Describe the process of socialization.

(2+8 = 10 marks)

3. What is social change? How does social change cause stress and deviance? Suggest measures to overcome them.

(2+4+4 = 10 marks)

4. **Write short notes on the following:**

- 4A. Family and Psychosomatic diseases  
 4B. Meaning and consequences of beggary on health

(5+5 = 10 marks)

