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# MANIPAL UNIVERSITY

## SECOND YEAR B.O.T. DEGREE EXAMINATION – JUNE 2013

### SUBJECT: PATHOLOGY (COMMON FOR OLD AND NEW REGULATION)

Monday, June 10, 2013

Time: 10:00-11:30 Hrs.

Max. Marks: 40

1. Define neoplasia. How is neoplasia different from dysplasia and metaplasia? Explain the characteristic features of malignant tumors with suitable examples. Write a note on the prognosis of tumors.  

(1+2+3+2 = 8 marks)
2. Describe the predisposing factors, clinical effects and complications of atherosclerosis.  

(2+2+3 = 7 marks)
3. **Write short notes on:**
  - 3A. Megaloblastic anaemia
  - 3B. Osteomyelitis
  - 3C. Bronchiectasis
  - 3D. Types of necrosis with examples
  - 3E. Clinical features and complications of Diabetes Mellitus

(5×5 = 25 marks)



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# MANIPAL UNIVERSITY

SECOND YEAR B.O.T. DEGREE EXAMINATION – JUNE 2013

**SUBJECT: MICROBIOLOGY**  
(COMMON FOR OLD AND NEW REGULATION)

Wednesday, June 12, 2013

Time: 10:00-11:30 Hrs.

Max. Marks: 40

**Answer all questions. Draw diagrams wherever appropriate:**

1. Discuss the mechanisms of autoimmunity. List the diseases involving multiple organs.  
(4+3 = 7 marks)
  
2. Explain the pathogenesis of Mycobacterium tuberculosis. Add a note on its laboratory diagnosis.  
(5+3 = 8 marks)
  
3. **Write short notes on:**
  - 3A. Pathogenesis of typhoid fever
  - 3B. Laboratory diagnosis of syphilis
  - 3C. Contributions of Robert Koch
  - 3D. Pathogenesis and prophylaxis of rabies
  - 3E. Mechanisms of innate immunity(5×5 = 25 marks)



**MANIPAL UNIVERSITY**  
**SECOND YEAR B.O.T. DEGREE EXAMINATION – JUNE 2013**

**SUBJECT: PHARMACOLOGY**  
**(COMMON FOR BOTH OLD & NEW REGULATIONS)**

Friday, June 14, 2013

Time: 10:00-11:30 Hrs.

Max. Marks: 40

- 1A. Explain the mechanism of action of aspirin.  
1B. Enumerate four commonly used NSAIDs other than aspirin and list any four therapeutic uses of NSAIDs. (2+4 = 6 marks)
2. Describe the mechanism of action and one therapeutic use of statins. (2 marks)
3. Enumerate two advantages and two disadvantages of intramuscular route of drug administration. (2 marks)
4. **Explain the basis for the following:**  
4A. Levodopa is combined with carbidopa in the treatment of Parkinsonism  
4B. Allopurinol is used in the management of chronic gout  
4C. Corticosteroids should not be stopped abruptly after prolonged use  
4D. Combination of drugs are used in the treatment of pulmonary tuberculosis  
4E. Use of salbutamol in bronchial asthma (2×5 = 10 marks)
5. List three classes of anti HIV drugs with one example for each class. (3 marks)
6. **Explain the following terms with an example:**  
6A. First pass metabolism  
6B. Chemoprophylaxis  
6C. Drug antagonism (2×3 = 6 marks)
7. Classify skeletal muscle relaxants with an example for each class. (3 marks)
8. Enumerate two anticholinergic drugs and two uses of any one of them. (2 marks)
9. Explain the mechanism of action of nitrates in angina. (2 marks)
10. Explain the mechanism of action and one therapeutic use of cotrimoxazole. (2 marks)
11. Enumerate two each drugs useful in epilepsy and peptic ulcer. (2 marks)



# MANIPAL UNIVERSITY

**SECOND YEAR B.O.T DEGREE EXAMINATION – JUNE 2013**

**SUBJECT: RESEARCH METHODOLOGY AND STATISTICS**

**(2010 BATCH - OR)**

Monday, June 17, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. What is the role of Statistics in Clinical Medicine?  
(5 marks)
  
2. Form a frequency table along with relative frequencies for the ages of 48 patients given below:  
(Class intervals: 0 – 15, 15 – 30, 30 – 45, so on)

30	39	53	47	64	31	10	36	29	40	22	40
76	33	46	17	38	50	30	34	25	36	39	36
15	65	39	43	62	30	07	47	32	36	42	42
47	27	32	39	24	57	37	43	43	54	40	39

(5 marks)

  
3. List the four different scales of measurement and give an example each.  
(4 marks)
  
- 4A. Standard normal curve is \_\_\_\_\_ kurtic.
- 4B. \_\_\_\_\_ percent of the observations lie above the 60<sup>th</sup> percentile.  
(2 marks)
  
5. Construct a simple bar diagram for the distribution of mites on leaves.

Number of mites per leaf	No. of leaves
0	23
1	22
2	13
3	7
4	6
5	2
6	2

(4 marks)

  
6. Erythrocyte Sedimentation Rate (ESR) readings (in mm) of 12 tuberculosis patients are given below. Calculate median and inter quartile range.  
11 9 8 14 10 8 7 12 8 9 11 12  
(10 marks)
  
7. Obtain coefficient of variation for the data regarding number of post operative days until diagnosis of infection for each subject experiencing an infection.  
17 13 15 8 16 14 21 19 12  
(8 marks)



8. **Define the following:**

- 8A. Crude birth rate
- 8B. Infant mortality rate
- 8C. General fertility rate

(2×3 = 6 marks)

9. Given the heights of females is approximately normally distributed with a mean of 62 inches and a standard deviation of 2 inches. Obtain the proportion of females having height

- 9A. Taller than 58 inches
- 9B. Between 56 and 64 inches

(3×2 = 6 marks)

10. **Write short notes on:**

- 10A. Correlation
- 10B. Cluster sampling
- 10C. Prevalence and Incidence
- 10D. Requirements of health information system
- 10E. Sample registration system
- 10F. Cross sectional studies

(5×6 = 30 marks)



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# MANIPAL UNIVERSITY

SECOND YEAR B.O.T. DEGREE EXAMINATION – JUNE 2013

SUBJECT: DEVELOPMENTAL AND ORGANIZATIONAL PSYCHOLOGY  
(2010 BATCH)

Wednesday, June 19, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

 Answer ALL questions.

 All questions carry equal marks.

1. Define development and discuss the approaches adapted to study development.
2. Discuss the formation of groups in an organization and outline the functions performed by these groups.
3. Outline the stages of emotional development and discuss any three theories of emotions.
4. Write short notes on:
  - 4A. Assessment of motor skills
  - 4B. Socio-cultural aspects of development
  - 4C. Language development in infancy and early childhood
  - 4D. Social development in late childhood and adolescence



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## MANIPAL UNIVERSITY

### SECOND YEAR B.O.T. DEGREE EXAMINATION – JUNE 2013

**SUBJECT: OCCUPATIONAL THERAPY – II**  
**(With Biomechanics and Kinesiology)**  
**(2010 BATCH)**

Friday, June 21, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Answer ALL the questions.**

✍ **Long questions:**

1. Explain the general procedure of ADL and IADL evaluation. Explain in detail the evaluation of any one component of IADL.

(8+7 = 15 marks)

2. Describe the guidelines in process of critiquing and also explain the concepts of reliability and validity.

(10+5 = 15 marks)

3. Describe the center of gravity and base of support. Explain how does it influence balance. State the two laws that determine equilibrium of an object in a stable state.

(5+5+5 = 15 marks)

4. Describe the curves of vertebral column. Explain in detail typical vertebrae and intervertebral disk.

(5+5+5 = 15 marks)

5. **Write short notes on:**

5A. Classify In-hand manipulation

5B. Types of tremor

5C. Unilateral neglect

5D. Evaluation of superficial pain sensation

(5×4 = 20 marks)



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# MANIPAL UNIVERSITY

SECOND YEAR B.O.T. DEGREE EXAMINATION – JUNE 2013

SUBJECT: DEVELOPMENT ACROSS THE LIFE SPAN  
(2011 BATCH)

Monday, June 17, 2013

Time: 10:00-11:30 Hrs.

Max. Marks: 40

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 **Answer ALL questions.**

 **Long questions:**

1. Describe Freud's theory of psychosexual development.

(10 marks)

2. Explain the development of social skills in infancy and early childhood.

(10 marks)

3. **Write short notes on:**

3A. Disengagement theory

3B. Development of bilateral use of hand in a child

3C. Physical changes seen at puberty

3D. Explain auditory play with suitable examples

(5×4 = 20 marks)





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# MANIPAL UNIVERSITY

## SECOND YEAR B.O.T. DEGREE EXAMINATION – JUNE 2013

### SUBJECT: BIOMECHANICS AND KINESIOLOGY (2011 BATCH)

Wednesday, June 19, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

**Answer ALL questions. Draw diagram wherever necessary.**

**Long questions:**

1. Describe three main classes of joint. Types of synovial joint and its structures. Explain subject and skeletal factors of joint motion.  
(10+10 = 20 marks)
2. Structures of vertebral column and normal spinal curves. Describe two systems of muscles that produce movements in trunk.  
(10+5+5 = 20 marks)
3. **Write short notes on:**
  - 3A. Describe structural anatomy of the wrist complex.  
(10 marks)
  - 3B. Describe joint angles in degrees at the hip, knee and ankle in the sagittal plane during normal gait cycle.  
(10 marks)
  - 3C. What are the major forces acting at elbow joint while carrying a bag at wrist and represent them schematically.  
(10 marks)
  - 3D. Four characteristics of skeletal muscle. Briefly describe the features of type-1 and type -2a and 2b muscle fibers.  
(4+6 = 10 marks)



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## MANIPAL UNIVERSITY

SECOND YEAR B.O.T. DEGREE EXAMINATION – JUNE 2013

SUBJECT: THERAPEUTIC ACTIVITIES AND EXERCISES  
(2011 BATCH)

Friday, June 21, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

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 **Answer ALL questions.**

 **Long questions:**

1. Define therapeutic exercise. Explain in detail the purposes and different exercise programs of therapeutic exercise.

(20 marks)

2. Explain the concept of 'Man as an open system' as described by Kielhofner.

(20 marks)

3. **Write short notes on:**

3A. Considerations for selection of activities for a therapeutic purpose

3B. Strategies to maintain tissue integrity

3C. Factors influencing the 'will to learn'

3D. Enumerate treatment modalities in occupational therapy with examples and summarize factors influencing their selection.

(10×4 = 40 marks)



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## MANIPAL UNIVERSITY

### SECOND YEAR B.O.T. DEGREE EXAMINATION – JUNE 2013

SUBJECT: OCCUPATIONAL PERFORMANCE: PERSONAL AND CONTEXTUAL FACTORS  
(2011 BATCH)

Monday, June 24, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Answer ALL questions.**

✍ **Long answer questions:**

1. Define co-ordination and discuss the types of inco-ordination. Explain any two methods of assessment of co-ordination.

(2+10+8 = 20 marks)

2. Define cognition. Describe in detail components of cognitive abilities. Discuss about Mini Mental State Examination (MMSE).

(2+12+6 = 20 marks)

3. **Write short notes on:**

3A. Describe phases of caregivers adaptation to chronic disability.

(10 marks)

3B. Define visual convergence. Explain the equipment requirement, set-up and testing procedure of the same.

(2+2+2+4 = 10 marks)

3C. Describe any five characteristics of normal muscle tone.

(10 marks)

3D. Define ROM and muscle strength. With an example explain the relationship between joint ROM and muscle weakness.

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

