MANIPAL UNIVERSITY

SECOND YEAR B.P.T./B.O.T. DEGREE EXAMINATION – DECEMBER 2011

SUBJECT: PATHOLOGY AND MICROBIOLOGY
(COMMON FOR BOTH OLD & NEW REGULATION)

Monday, December 12, 2011

Time: 10:00-13:00 Hrs.   Max. Marks: 80

✍ **Answer section A and section B in TWO separate answer books.**

✍ **Draw labelled diagrams wherever appropriate.**

SECTION 'A': PATHOLOGY: 40 MARKS

1. Define inflammation. Describe the vascular and cellular events in inflammation.

(1+7 = 8 marks)

2. Discuss the process of fracture healing and the factors that influence fracture repair.

(4+3 = 7 marks)

3. Write short notes on:

3A. Aetiology and clinical features of peptic ulcer

3B. Septic shock

3C. Primary tuberculosis

3D. Thalassemia

3E. Osteoarthritis

(5×5 = 25 marks)

SECTION 'B': MICROBIOLOGY: 40 MARKS

4. Draw and label a neat diagram of a bacterial cell. Discuss the cell envelope in detail.

(4+4 = 8 marks)

5. Discuss the pathogenesis and prevention of poliomyelitis.

(4+3 = 7 marks)

6. Write short notes on:

6A. Bacterial growth curve

6B. Autoclave

6C. Immune complex hypersensitivity

6D. Laboratory diagnosis of pulmonary tuberculosis

6E. Laboratory diagnosis of HIV infection

(5×5 = 25 marks)

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SECOND YEAR B.P.T./B.O.T. DEGREE EXAMINATION – DECEMBER 2011

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

Tuesday, December 13, 2011

Time: 10:00-11:30 Hrs.   Max. Marks: 40

1A. Enlist four drugs used in the treatment of rheumatoid arthritis.

1B. Explain the mechanism of action and two adverse effects of any one of them.

(2+(2+1) = 5 marks)

2A. Mention two vasoconstrictors and two vasodilators.

2B. Write two uses and two adverse effects of:

i)   Cotrimoxazole

ii)   Erythromycin

(2+(2+2) = 6 marks)

3.   **Mention two uses and two adverse effects of the following:**

3A. Estrogens

3B. Imipramine

3C. Aspirin

3D. Prednisolone

(4×4 = 16 marks)

4.   **Define the following terms with an example:**

4A. Prodrug

4B. Physiological antagonism

4C. Narrow margin of safety

4D. Teratogenecity

(2×4 = 8 marks)

5A. Enlist four opioid analgesics.

5B. Explain briefly any one pharmacological actions of opioid analgesics.

5C. Enlist two important adverse effects of opioid analgesics.

(2+2+1 = 5 marks)

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SECOND YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2011

SUBJECT: ELECTROTHERAPY
(COMMON FOR BOTH OLD AND NEW REGULATION)

Wednesday, December 14, 2011

Time: 10:00-13:00 Hrs.   Max. Marks: 80

✍ **Answer ALL questions.**

1.   Essay Questions:

1A.   Discuss physiological and therapeutic effects of Short Wave Diathermy.

(5+5 = 10 marks)

1B.   Explain production of Ultrasound. Discuss its thermal and nonthermal effects.

(3+7 = 10 marks)

2.   Short Notes:

2A.   Explain test dose calculation for Ultra Violet Radiation.

2B.   Mention indications and contraindications of Interferential Therapy.

2C.   Explain different types of Transcutaneous Electrical Nerve Stimulation.

2D.   Discuss physiological effects of constant Direct Current.

2E.   Explain Pain Gate mechanism.

2F.   Explain Westinghouse bridge with the help of a neat diagram.

2G.   Define Electric Shock and mention prevention methods for it.

2H.   List out indications and contraindications of LASER.

(5×8 = 40 marks)

3.   Brief answers:

3A.   Define iontophoresis.

3B.   MentionTypes of Laser.

3C.   Define Inverse Square law.

3D.   Define Half-value depth.

3E.   What is Faradism under pressure?

3F.   Mention four dangers of Infra Red Radiation.

3G.   Define Rheobase.

3H.   Mention four precautions for Microwave Diathermy.

3I.   List out four indications for Cryotherapy.

3J.   Define Eddy currents.

(2×10 = 20 marks)

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SECOND YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2011

SUBJECT: BIOMECHANICS AND EXERCISE THERAPY – II
(NEW REGULATION)

Thursday, December 15, 2011

Time: 10:00-13:00 hrs.   Max. Marks: 80

✍ **Answer ALL questions.**

SECTION A: BIOMECHANICS (40 Marks)

1.   Essay Questions:

1A. Describe in detail the Kinetics and Kinematics of Lumbar spine.

(10×1 = 10 marks)

2.   Short Notes:

2A. Discuss the ligaments of knee joint
2B. Structure and function of intervertebral disc
2C. Types of power grips
2D. Scapulohumeral rhythm

(5×4 = 20 marks)

3.   Brief Answers:

3A. What is angle of inclination?
3B. What is Q angle?
3C. What is Windlass mechanism?
3D. What is Trendelenburg gait?
3E. What is the capsular pattern for hip joint?

(2×5 = 10 marks)

SECTION B: EXERCISE THERAPY – II (40 Marks)

4.   Essay Questions:

Describe spinal traction under the following:
i)   Definition   ii)   Types
iii) Principles   iv)   Patterns of application

(1+2+3+4 = 10 marks)

5.   Short Notes:

5A. Explain normal physiology of co-ordination.
5B. Principles of strengthening and gadgets used in strengthening.
5C. Segmental expansion exercises.
5D. Mention in detail the principles of Proprioceptive Neuromuscular Facilitation.

(5×4 = 20 marks)

6.   Brief Answers:

6A. What is convex-concave rule.
6B. Mention two indications and two contraindications of postural drainage.
6C. Define trick movement and give one example.
6D. Mention two abnormal breath sounds.
6E. What is 1 RM (Repetitive Maximum).

(2×5 = 10 marks)

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SECOND YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2011

SUBJECT: EXERCISE THERAPY – II
(OLD REGULATION)

Thursday, December 15, 2011

Time: 10:00 – 13:00 hrs.   Max. Marks: 80

✍ **Answer ALL the questions.**

1.   Essay Questions:

1A.   Describe the principles of Manual Muscle Power Testing.

(10 marks)

1B.   Describe the kinetics and kinematics of wrist joint.

(5+5 = 10 marks)

2.   Short Notes:

2A.   Trick movements

2B.   What are the types of stretching? Explain the physiological basis of stretching techniques.

2C.   Explain any two principles of strength training.

2D.   Explain the determinants of gait.

2E.   Discuss the measurement technique and merits and demerits of elbow crutch.

2F.   List the abnormal postures. Describe any two abnormal postures.

2G.   Describe the causes and prevention of joint restriction.

2H.   Explain the features and classification of diarthroses joint with examples.

(5×8 = 40 marks)

3.   Brief Answers:

3A.   Rhythmic stabilization

3B.   What are the modes of traction technique?

3C.   What is creep?

3D.   Mention any four contraindications of mobilization technique.

3E.   Pursed lip breathing exercise.

3F.   Name the abnormal breath sounds.

3G.   List four contraindications for traction.

3H.   Define incoordination.

3I.   Merits and demerits of postural drainage.

3J.   Festinating gait

(2×10 = 20 marks)

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SECOND YEAR B.P.T. DEGREE EXAMINATION – DECEMBER 2011

SUBJECT: PSYCHOLOGY
(COMMON FOR BOTH OLD AND NEW REGULATION)

Friday, December 16, 2011

Time: 10:00-13:00 Hrs.   Max. Marks: 80

✍ **Answer any FOUR questions form SECTION'A' and any FOUR questions from SECTION 'B'.**

✍ **All questions carry equal marks.**

SECTION 'A'

1. What is psychology? Briefly mention the scope of psychology.

2. What are emotions? Discuss different types of emotions.

3. Discuss the differences between classical and operant conditioning.

4. Discuss various stages of physical development across the life span.

5. **Write briefly on any TWO of the following:**

5A. Problem solving

5B. Experiment method

5C. Trait theories of personality

SECTION 'B'

6. Discuss DSM and ICD classification system of abnormal behavior.

7. Define stress. Discuss the effect of stress and various ways of coping with it.

8. Define psychotherapy. Briefly discuss psychodynamic and client-centered psychotherapies.

9. What is rehabilitation? Discuss psychosocial rehabilitation in detail.

10. **Write briefly on any TWO of the following:**

10A. Ideal perspective of normality

10B. Aversive therapy

10C. Token economy