TIME - 3 HRS   MAX MARKS:100

EXERCISE THERAPY

Q.P. CODE: B3060

Your answers should be specific to questions asked.
Draw neat labelled diagrams wherever necessary

LONG ESSAY (Answer any Two)   **2 X 10 = 20 Marks**

1. Explain D1 flexion and extension Proprioceptive neuromuscular facilitation pattern for lower extremity with stick diagram.

2. Explain the tests of coordination. Describe the Frenkels exercise program for lower limbs co ordination

3. List the types of posture. Explain the principles of postural re-education.

SHORT ESSAY (Answer any Ten)   **10X 5 = 50 Marks**

4. Enumerate the indications for suspension therapy

5. Describe Delorme's technique with example.

6. Discuss the indications and contraindications of hydrotherapy

7. Discuss the cardiovascular changes that occur with training in response to aerobic exercise

8. Explain the precautions and contraindications to aquatic exercise.

9. Write about the indications and various types of stretching technique.

10. Write the causes for in co ordination and what exercises should be given.

11. Write the principles and training with Walking aids

12. Write the Classification and uses of active exercises

13. What are the Indications and contraindications of massage

14. Explain the grades of mobilization.

15. Define and compare Jacobson's & Mitchel' relaxation technique

SHORT ANSWER (Answer any Ten)   **10 X 3 = 30 Marks**

16. Define endurance and its types

17. Define rhythmic initiation.

18. Define Petrissage

19. Define flexibility

20. Define1 Repetition maximum

21. Define postural tone

22. What is stretching?

23. List the types of PNF stretching.

24. Give the uses of Pulleys

25. Define Muscle power.

26. What is active vs inactive posture?

27. Isokinetic exercise

✱ ✱ ✱

TIME – 2.30 Hrs.   MAX MARKS: 80

Pathology & Microbiology

Your answers should be specific to questions asked.
Draw neat labelled diagrams wherever necessary.

Section - A
Pathology (40 marks)
QP Code : B3076
(Use Separate answer booklet for Section A & B)

LONG ESSAY   **1 X 10 = 10 marks**
   1. Describe the cellular events in acute inflammation

SHORT ESSAYS (ANSWER ANY THREE)   **3 X 5 = 15 marks**
   2. Define hypersensitivity. Add a note on type 4 anaphylactic reactions.
   3. Myocardial infarction
   4. Non hodgkin's lymphoma
   5. Renal function test

SHORT ANSWERS (ANSWER ANY FIVE)   **5 X 3 = 15 marks**
   6. Define hypertrophy and hyperplasia
   7. Define and list the types of necrosis
   8. Causes of meningitis
   9. Symptoms of Vitamin A deficiency
   10. Enumerate platelet function disorder
   11. Lobar pneumonia

Section - B
Microbiology (40 marks)
QP Code : B3075

LONG ESSAY   **1 X 10 = 10 marks**
1. Describe the source, modes of transmission, clinical diseases, samples to be collected &
   diagnostic methods for Tuberculosis and add a note on its prophylaxis (1+1+4+2+1+1)

SHORT ESSAYS (ANSWER ANY THREE)   **3 X 5 = 15 marks**
2. Describe the functions, methods of detection and clinical significance of Bacterial capsule
3. Describe the principle, biological mediators and clinical significance of Type 1 Hypersensitivity
4. Describe the clinical features and samples collected in infection due to *Candida albicans*
5. Describe the mechanisms of autoimmunity

SHORT ANSWERS (ANSWER ANY FIVE)   **5 X 3 = 15 marks**

6. List three opportunistic fungi
7. Enumerate the standard precautions followed in hospital settings
8. Name any three disinfectants used in hospital
9. Define the term artificial passive immunity with examples
10. Mention the modes of transmission of HIV
11. Name three diseases transmitted by mosquitoes

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Bachelor of Physiotherapy, Second Year Semester-III,
March 2024 Examination.

TIME – 2.30 HRS   MAX MARKS: 80

Research Methodology and Biostatistics

Your answers should be specific to questions asked.
Draw neat labelled diagrams wherever necessary.

Section - A
Research Methodology (40 marks)
QP Code: B3085
(Use Separate answer booklet for Section A & B)

LONG ESSAY   **1X 10 = 10 Marks**
1. Explain collection of data using various methods.

SHORT ESSAY (Answer any Three)   **3X 5 = 15 Marks**
2. Characteristics of Normal Distribution curve.
3. Randomised Control trial.
4. Explain Steps in writing report.
5. What is Qualitative Research? List the methods of Qualitative Research.

SHORT ANSWER (Answer any Five)   **5X 3 = 15 Marks**
6. Probability Sampling.
7. Measures of dispersion.
8. Multi - Stage Sampling.
9. SMART Criteria
10. Difference between Case Control & Cohort study.
11. List types of consent.

Section – B
Biostatistics (40 Marks)
QP Code: B3086
(Use separate answer booklet for section B)

LONG ESSAY   **1X 10 = 10 Marks**
1. Mobility scores of two groups of patients who have undergone 2 types of physiotherapy is given below. Compare the variability

Physiotherapy A: 20, 22,24,20,24   Physiotherapy B: 20, 28,30,28,34

SHORT ESSAY (Answer any Three)   **3X 5 = 15 Marks**
2. Methods of data collection
3. ANOVA
4. Role of statistics in Physiotherapy research
5. Probability sampling methods

SHORT ANSWER (Answer any Five)   **5X 3 = 15 Marks**
6. Systematic random sampling
7. Paired t test
8. Characteristics of a Normal curve
9. Pie diagrams.
10. Sources of health data
11. Types of variables

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Time: 2.30 Hrs.   [Max. Marks: 80]

EXERCISE THERAPY
Q.P Code: B3310

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.

LONG ESSAY   **2 X 10 = 20 Marks**

1. Describe Suspension therapy. Explain the principles of suspension therapy. Add a note on suspension therapy unit. (3+4+3)

2. Define hydrotherapy and explain the properties of water. List the merits and demerits of hydrotherapy.(2+4+2+2)

SHORT ESSAY   **6 x 5 = 30 Marks**

3. Describe exercise stress test.
4. Write a note on the Joint mobilization.
5. Define Balance and write in detail about balance re-training.
6. Explain the Principles of peripheral joint mobilization.
7. Classify and describe the techniques of massage.
8. Elaborate Gait training in non-weight bearing.

SHORT NOTES   **10 x 3 = 30 marks**

9. Explain Contract relax PNF stretch.
10. Describe Canes
11. List the Crutch muscles
12. Enumerate the Types of goniometers
13. Explain Segmental limb length
14. Define muscle tone
15. Describe Ballistic stretching
16. Enumerate the Indications of passive movements
17. Describe Oxford exercise regimen
18. Explain Hacking technique

TIME – 2.30 Hrs.   MAX MARKS: 80

Pathology & Microbiology
Your answers should be specific to questions asked.
Draw neat labelled diagrams wherever necessary.

Section - A
Pathology (40 marks)
QP Code : B3325
(Use Separate answer booklet for Section A & B)

LONG ESSAYS   1X10=10 M
1. Discuss the types, pathogenesis and lab diagnosis of Diabetes Mellitus.

SHORT ESSAYS   3X5=15 M
2. Discuss fate of acute and chronic inflammation

3. Define Embolism, discuss the types and clinical effects of embolism.

4. Myocardial infarction

SHORT ANSWERS   5X3=15 M
5. CSF findings in pyogenic meningitis

6. Enumerate causes of Pneumonia

7. List 4 examples of dysplasia

8. Cardinal signs of inflammation

9. List clinical signs of Vitamin D deficiency

Section - B
Microbiology (40 marks)
QP Code : B3326

LONG ESSAY   1X10=10 M
1. Draw a neat labelled diagram of bacterial cell. Describe the structure, types, functions and demonstration methods of flagella. (3+2+2+1+2)

SHORT ESSAYS   3X5=15 M
2. Describe the principle, holding time, uses of Hot Air Oven and add a note on the controls used

3. Describe the structure and biological functions of Immunoglobulin M

4. Describe the modes of transmission, clinical features and preventive measures of HIV infection

SHORT ANSWERS   5X3=15 M
5. Define passive immunity with examples

6. Enumerate three autoimmune diseases

7. Enumerate the types of fungal infections

8. Enumerate three intestinal helminths

9. Draw a neat, labelled diagram of bacterial growth curve.

TIME – 2.30 HRS   MAX MARKS: 80

Research Methodology and Biostatistics

Your answers should be specific to questions asked.
Draw neat labelled diagrams wherever necessary.

Section - A

Research Methodology (40 marks)
QP Code: B3335
(Use Separate answer booklet for Section A & B)

LONG ESSAY   **1 X 10 = 10 Marks**

1. Define ethics. Why it is important in research? (3+7)

SHORT ESSAY   **3 x 5   = 15 Marks**

2. Define sampling. Explain sampling errors (2+3)
3. Explain the meaning of the following in context of Research design
   - (a) Extraneous variables;
   - (b) Confounded relationship;
   - (c) Research hypothesis;
   - (d) Experimental and Control groups;
   - (e) Treatments
4. Explain the measures of dispersion

SHORT NOTES   **5 x 3   = 15 marks**

5. List out the motivations in research
6. Define Research and Scientific Methods
7. Define experience survey
8. List out 3 uses of computer in research
9. Explain before and after with control study design

Section – B
Biostatistics (40 Marks)
QP Code: B3336
(Use separate answer booklet for section B)

LONG ESSAY   **1 X 10 = 10 Marks**

1. Explain in detail about the procedure of sampling. List the criteria for good sample and write a note on test of significance**.**

SHORT ESSAY   **3 x 5 = 15 Marks**

2. Find mode for the given data.

Class	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50
Frequency	8	12	10	11	9

3. Write the steps in statistics.
4. Diagrammatic Representation of data.

SHORT NOTES   **5 x 3 = 15 marks**

5. Explain normal distribution curve
6. Explain descriptive statistics
7. Explain Measures of Central tendency
8. Histogram
9. Non parametric test