

Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.P.T. Degree Examination – 03-Jan-2022

Time: 3 Hours

Max. Marks: 40 Marks

PATHOLOGY - (RS-5)

Q.P. Code: 2737

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

(Note : Both QP Codes 2737 and 2738 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One)

1 x 10 = 10 Marks

1. Define and classify Anemia. Discuss clinical features and Lab diagnosis of Megaloblastic anemia.
2. Describe the clinical features and diagnosis of Osteomyelitis.

SHORT ESSAYS (Answer any Three)

3 x 5 = 15 Marks

3. Explain the clinical features and lab diagnosis of Pyogenic meningitis.
4. Discuss Necrosis and its types.
5. Discuss Down's syndrome.
6. Describe the etiology, gross and microscopy of Atherosclerosis.

SHORT ANSWERS

5 x 3 = 15 Marks

7. Enumerate microscopic features of Squamous cell carcinoma.
8. Name four chemical mediators of inflammation.
9. Enumerate types of Edema.
10. Enlist the different modes of transmission of HIV.
11. Enumerate the skeletal changes in Rickets.



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Max. Marks: 40 Marks

Microbiology - (RS-5)

Q.P. Code: 2738

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 2737 and 2738 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One)

1 x 10 = 10 Marks

1. Draw and label a diagram of Bacterial cell and write in detail about bacterial spore
2. Define sterilization. Classify sterilization. Describe the methods of moist heat sterilization

SHORT ESSAYS (Answer any Three)

3 x 5 = 15 Marks

3. Laboratory diagnosis of Typhoid fever
4. Laboratory diagnosis of Fungal infections
5. IgG immunoglobulin
6. Laboratory diagnosis of urinary tract infections

SHORT ANSWERS

5 x 3 = 15 Marks

7. Define antigen.
8. Prophylaxis of hepatitis B
9. List four organisms causing sexually transmitted diseases
10. Draw a neat and labeled diagram of HIV
11. Name four DNA viruses



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PATHOLOGY (RS-3 & RS-4)

Q.P. Code : 2708

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 2708 and 2709 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One)

1 x 10 = 10 Marks

1. Define inflammation. Discuss vascular and cellular events in acute inflammation.
2. Define and classify anemia. Write laboratory and diagnosis of megaloblastic anemia.

SHORT ESSAYS (Answer any Three)

3 x 5 = 15 Marks

3. Define metaplasia with examples.
4. Syphilis.
5. Etiopathogenesis and microscopy of Hashimoto's Thyroiditis.
6. Osteoarthritis.

SHORT ANSWERS

5 x 3 = 15 Marks

7. Leukocytosis.
8. Virchow's triad.
9. Types of embolism.
10. Atrophy.
11. Mention three laboratory diagnosis of beta-thalassemia.



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Max. Marks: 40 Marks

MICROBIOLOGY (RS-3 & RS-4)

Q.P. Code : 2709

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 2708 and 2709 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One)

1 x 10 = 10 Marks

1. Draw a neat labelled diagram of bacterial cell. Explain in detail about bacterial spore.
2. Define and classify sterilization. Explain in detail about sterilization by moist heat method.

SHORT ESSAYS (Answer any Three)

3 x 5 = 15 Marks

3. Bacterial growth curve.
4. Structure and symmetry of virus.
5. Pathogenesis and laboratory diagnosis of C Neoformans.
6. Clinical manifestations of Staphylococcus aureus (S. aureus)

SHORT ANSWERS

5 x 3 = 15 Marks

7. Mantoux test.
8. Name three sexually transmitted diseases.
9. Name two selective media and two enrichment media.
10. Biological vector.
11. Name two gram positive bacteria and two gram negative bacteria.



Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.P.T. Degree Examination – 05-Jan-2022

Time: Three Hours

Max. Marks: 80 Marks

PHARMACOLOGY - (RS-5)

Q.P. CODE: 2739

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (Answer any One)

1 x 10 = 10 Marks

1. Classify antidepressants. Write the mechanism of action, uses and adverse effects of Amitriptyline.
2. Classify oral hypoglycemic drugs and explain about Metformin.

SHORT ESSAYS (Answer any Eight)

8 x 5 = 40 Marks

3. Write a note on drugs to be avoided in elderly.
4. Describe the mechanism of action and therapeutic uses of omeprazole.
5. Enumerate various drugs used in Gout. Explain the mechanism of action of any one drug.
6. Glucocorticoids.
7. Mechanism of action & therapeutic uses of Frusemide.
8. Write the therapeutic uses and adverse effects of Propranolol.
9. Enumerate various routes of administration of drugs.
10. NSAID's
11. Write a note on centrally acting skeletal muscle relaxants.
12. Explain the mechanism of action, uses and adverse effects of oral anticoagulants.

SHORT ANSWERS

10 x 3 = 30 Marks

13. What is drug tolerance? Explain with suitable examples.
14. Define drug antagonism.
15. Enlist two uses and two adverse effects of Aspirin.
16. Enlist two uses and two adverse effects of Phenobarbital.
17. List two uses and two adverse effects of Nitrates.
18. Enlist one use and one adverse effect of Lithium.
19. Enlist two anti-anxiety drugs.
20. List two uses and two adverse effects of Dexamethasone.
21. List two drugs which cause postural hypotension in elderly.
22. Why carbidopa is given along with Levodopa.



Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.P.T. Degree Examination – 05-Jan-2022

Time: Three Hours

Max. Marks: 80 Marks

PHARMACOLOGY
(RS3 & RS4)
Q.P. CODE: 2710

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

LONG ESSAYS (Answer any Two)

1 x 10 = 10 Marks

1. Classify drugs used in Angina. Explain the mechanism of action, pharmacological actions, uses and adverse effects of Nitrates.
2. Classify Non-steroidal anti-inflammatory drugs. Describe the Mechanism of action, uses and adverse effects of aspirin.

SHORT ESSAYS (Answer any Eight)

8 x 5 = 40 Marks

3. Acute Barbiturate Poisoning.
4. Glucocorticoids.
5. Selective alpha 1 adrenergic agents.
6. Atypical Antipsychotics.
7. Sodium Valproate.
8. Advantages of Low Molecular Weight Heparin.
9. Proton pump inhibitors.
10. Methotrexate.
11. Centrally acting Skeletal Muscle Relaxants.
12. Bronchodilators.

SHORT ANSWERS

10 x 3 = 30 Marks

13. One use and one adverse effect of Digoxin.
14. One use and one adverse effect of Verapamil.
15. One use and one adverse effect of Atorvastatin.
16. One use and one adverse effect of Imipramine.
17. One use and one adverse effect of Pioglitazone.
18. Name the newer insulins.
19. One use and one adverse effect of Prednisolone.
20. One use and one adverse effect of Cimetidine.
21. One use and one adverse effect of Succinylcholine.
22. One use and one adverse effect of Streptokinase.



Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.P.T Degree Examination – 07-Jan-2022

Time: Three Hours

Max. Marks: 100 Marks

EXERCISE THERAPY (RS5)

Q.P. CODE: 2740

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

LONG ESSAYS (Second Question choice)

2 x 10 = 20 Marks

1. Explain the principles of suspension therapy and write the suspension therapy technique for hip internal and external rotation movements.
2. Define PNF. Explain the principles of PNF.

Or

Explain principles and progression in co-ordination exercises

SHORT ESSAYS (Question No.3 & 12 choice)

10 x 5 = 50 Marks

3. List properties of water and indications of hydrotherapy.

Or

Give a note on Pranayama and its uses.

4. Write the determinants of aerobic exercises. Give a note on circuit interval training in aerobic exercises.
5. List five starting positions and describe any one.
6. Name the grades five of Manual Muscle Testing (MMT).
7. Write five limitations of Goniometry.
8. Describe merits and demerits of group exercises.
9. Describe the types of active movements.
10. Define massage. Write its classification.
11. Describe measurement of apparent length.
12. List types of walking aids. Explain any two in detail.

Or

Describe the type of muscle contractions with examples.

SHORT ANSWERS

10 x 3 = 30 Marks

13. List the uses of closed chain exercises.
14. What are the types of Goniometer?
15. What is active and inactive posture?
16. Mention any three uses of stretching.
17. What are the parts of goniometer?
18. Name the types of free exercises.
19. What is 10 RM?
20. Define Effleurage technique.
21. Give three benefits of practising asanas.
22. Write four contra-indications of mobilization techniques.



Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.P.T. Degree Examination - 07-Jan-2022

Time: Three Hours

Max. Marks: 100 Marks

EXERCISE THERAPY (RS3 & RS4)

Q.P. CODE: 2711

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

LONG ESSAYS (Second Question Choice)

2 x 10 = 20 Marks

1. Describe various PNF techniques of facilitation for stability.
2. Describe the technique of mobilising the wrist joint.

OR

Describe the various techniques of facial massage.

SHORT ESSAYS (Question No 3 & 12 choice)

10 x 5 = 50 Marks

3. Classification of massage techniques.

OR

Describe postural mechanism.

4. Describe pre-crutch training.
5. Describe the contraindications of mobilizations.
6. Describe the technique of stretching knee extensors.
7. Describe the technique of suspension for shoulder medial and lateral rotation.
8. Describe the various derived positions in standing position.
9. Describe how would you measure the range of movement of hip abduction and adduction using goniometer.
10. Describe the principles of frenkel's exercises and progression exercises for shoulder.
11. Describe indications and contraindications for hydro therapy.
12. Describe the diagonal patterns of PNF movements for lower limbs.

OR

What are the various principles of relaxations? Describe any one method.

SHORT ANSWERS

10 x 3 = 30 Marks

13. Plastic range.
14. Reversibility principles.
15. Extensor Lag.
16. Isokinetic exercises.
17. Rhythmic stabilization.
18. Endurance tests.
19. Fatigue.
20. Uses of accessory movements.
21. Interval training.
22. Effect of aging on bone.



Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.P.T Degree Examination – 10-Jan-2022

Time: Three Hours

Max. Marks: 100 Marks

ELECTROTHERAPY (RS-5)

Q.P. CODE: 2741

Your answers should be specific to the questions asked

Draw neat, labeled diagrams wherever necessary

(QP contains two pages)

LONG ESSAYS (Second Question choice)

2 x 10 = 20 Marks

1. Describe in detail about the physiological effects and therapeutic effects of faradic current
2. 45 years old female reports with complaints in low back pain area. While taking history patient reported pain since past three months and there was no obvious history of any injury and no history of radiating to any other parts of the area. The pain is constant since onset. While interacting the patient seems to be so anxious about her pain and loves to talk about the pain to people around
 - a) List all possible electro therapeutic modalities that might be indicated for this case.
 - b) Choose appropriate modality for the above mentioned condition.
 - c) What will be the starting parameters you will use and how you will progress (based on number of days/patient symptoms).
 - d) Describe with a circuit diagram of the modality that you have chosen.
 - e) Other than the given information what extra information would have helped you to make a clear choice and what is the strategy that you will use for her anxiety

OR

Describe in detail about the thermal and non thermal effects of ultrasound. Add a note on phonophoresis

SHORT ESSAYS (Question No.3 & 12 choice)

10 x 5 = 50 Marks

3. Define Pain and explain Pain Gate theory
 - a) Describe about the Kromayer lamp
4. Write about the sensitizers and filters used in UVR
5. Describe about the diode valve
6. Discuss the various techniques of application of cryotherapy
7. Using strength duration curve how will you evaluate whether the muscle is partially or completely denervated. Explain
8. Explain the physiological effects of TENS (Transcutaneous Electrical Nerve Stimulation)
9. List the contraindications and dangers of SWD
10. Define medium frequency currents. Explain the dosage parameters of interferential therapy
11. Explain the technique of application of faradic foot bath
12. Does muscle contraction with electrical stimulation differs from normal voluntary contraction of muscle. If yes, justify

OR

Explain the therapeutic effects of infra red rays



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SHORT ANSWERS

10 x 3 = 30 Marks

13. What is attenuation?
14. Define rebox current
15. What is pulsed electromagnetic energy?
16. What is resting membrane potential?
17. Define near field and far field with neat labeled diagram
18. List any three indications and contraindications of micro wave diathermy
19. Describe FG test
20. Difference between micro and macro currents
21. Describe sinusoidal and diadynamic currents
22. List the therapeutic uses and contraindications of whirlpool bath



Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.P.T. Degree Examination – 10-Jan-2022

Time: Three Hours

Max. Marks: 100 Marks

ELECTROTHERAPY
(RS-3 & RS-4)
Q.P. CODE: 2712

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

LONG ESSAYS (Second Question Choice)

2 x 10 = 20 Marks

1. Write in detail method of plotting SD curve, characteristics of normal, partially denervated and completely denervated muscle.
2. Explain the principle of production of IFT, write in detail the physiological & therapeutic effects of IFT.

OR

Explain the production of Ruby LASER add a note on physiological and therapeutic effects of LASER.

SHORT ESSAYS (Question No 3 & 12 choice)

10 x 5 = 50 Marks

3. Explain the principles and methods of a application of ultrasound.

OR

PUVA.

4. Physiological and therapeutic effects of faradic current.
5. Theories of pain modulation.
6. Russian current.
7. Types of electrode placement in TENS.
8. Write a note on contrast bath.
9. F G test.
10. Physiological and therapeutic effects of microwave diathermy.
11. Principles and therapeutic uses of magnetic stimulation.
12. Cyclotherm.

OR

Iontophoresis for hyper hydrosis.

SHORT ANSWERS

10 x 3 = 30 Marks

13. Types of transformers.
14. Contrast bath.
15. Russian current.
16. Indications and contraindications of whirlpool.
17. Cathodal galvanism.
18. Lewis hunting reaction.
19. Uses of pulsed short wave diathermy.
20. Indications and contraindications of IRR.
21. Inverse square law.
22. Accommodation.



Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.P.T. Degree Examination - 12-Jan-2022

Time: Three Hours

Max. Marks: 80 Marks

RESEARCH METHODOLOGY AND BIostatISTICS

(RS3 & RS4)

Q.P. CODE: 2713

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

LONG ESSAYS (Answer any One)

1 x 10 = 10 Marks

1. Define research. Explain in detail about objectives of research, types of research and criteria for good research
2. Define variable and explain in detail the various scales of measurement with examples

SHORT ESSAYS (Answer any Eight)

8 x 5 = 40 Marks

3. Explain the procedure of tabulation of data
4. Explain the role of computers in physiotherapy research
5. Explain the characteristics of normal probability curve
6. Explain the different methods of sampling
7. Define hypothesis. Explain briefly the basic concept concerning testing of hypothesis
8. Explain the difference between descriptive and inferential statistics
9. Explain the various methods of data collection
10. Explain briefly measures of central tendency
11. Explain briefly the research process
12. What is research problem and steps involved in review of literature

SHORT ANSWERS

10 x 3 = 30 Marks

13. What is binomial distribution?
14. Difference between ordinal and interval scale
15. What is the difference between population and sampling frame
16. Difference between one tailed and two tailed test
17. What is Snowball sampling?
18. List the errors in sampling method
19. Skewness of data
20. List the differences between type I and type II error
21. What is Cohort study?
22. List four problems encountered by researchers in India


