

Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.P.T. Degree Examination – OCT-2019

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 OP 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. What is fatty change? Explain etiopathogenesis and pathology of fatty liver. (2+4+4)
2. Define rheumatic fever. Describe the etiopathogenesis and pathology of rheumatic heart disease. (2+4+4)

SHORT ESSAYS (Answer any Four)

4 x 5 = 20 Marks

3. Enumerate the stages in the evolution of lobar pneumonia.
4. Write bone marrow findings in Megaloblastic anemia.
5. Morphological features in Rickets
6. Etiopathogenesis and morphology of squamous cell carcinoma
7. Sequence of events in phagocytosis

SHORT ANSWERS

5 x 2 = 10 Marks

8. Mention four etiology of leukemia.
9. Microscopic features of Warthin's tumor
10. Name the genetic defect in Down's syndrome with three clinical presentations.
11. Morphology of Chronic venous congestion (CVC) liver
12. Give four examples for Type I hypersensitivity reaction.



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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 OP 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 sterilization. Give a detailed account of moist heat methods of sterilization.
2. Define and classify immunity. Describe acquired immunity in detail.

SHORT ESSAYS (Answer any Four)

4 x 5 = 20 Marks

3. Antiviral agents
4. Laboratory diagnosis of enteric fever
5. Prophylaxis against poliomyelitis
6. Normal flora of human body
7. Life cycle of filarial parasite

SHORT ANSWERS

5 x 2 = 10Marks

8. DPT vaccine
9. Quellung reaction
10. Classification of fungi
11. Name four disinfectants used in the hospital
12. Significant bacteruria



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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 Two)

2 x 10 = 20 Marks

1. Classify Nonsteroidal anti-inflammatory drugs. Write the therapeutic uses and adverse effects and contraindications of aspirin.
2. Classify anti Cholinergic drugs. Explain therapeutic uses and adverse effects of atropine.
3. Classify diuretics. Explain the mechanism of action, therapeutic uses and adverse effects of furosemide.

SHORT ESSAYS (Answer any Eight)

8 x 5 = 40 Marks

4. Drug antagonism
5. Cardioselective beta blockers
6. Succinylcholine
7. Bisphosphonates
8. Proton pump inhibitors
9. Insulin preparations
10. Nifedipine
11. Lithium
12. Angiotensin converting enzyme inhibitors
13. Spasmolytic drugs

SHORT ANSWERS

10 x 2 = 20 Marks

14. What is a prodrug? Give two examples of prodrugs.
15. List four atypical antipsychotic drugs
16. Mention two clinical uses and adverse effects of sodium valproate.
17. Mention the antidote for heparin and Warfarin overdose.
18. Mention two merits and two demerits of sublingual route of drug administration.
19. Mention four disease modifying antirheumatic drugs.
20. List four drugs for epilepsy.
21. Why carbidopa is co-administered with L-Dopa?
22. List four drugs used in bronchial asthma.
23. Mention two therapeutic uses and two adverse effects of corticosteroids.



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Time: Three Hours

Max. Marks: 100 Marks

Exercise Therapy (RS-5)

Q.P. CODE: 2740

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

LONG ESSAYS (Answer any Two)

2 x 10 = 20 Marks

1. Explain in detail principles, types and uses of goniometry.
2. Principles of Proprioceptive neuromuscular facilitation.
3. Define balance. Write any two tests of balance. Treatment for balance retraining for patients with balance dysfunction.

SHORT ESSAYS (Answer any Twelve)

12 x 5 = 60 Marks

4. Grades of mobilization
5. Types of suspension therapy
6. Rhythmic stabilization and Rhythmic initiation
7. Indications and Limitations of manual muscle testing
8. Physiological changes during aerobic exercises
9. Jacobson's techniques of relaxation
10. Mention different types of endurance tests.
11. Define limb length discrepancy and types of limb length discrepancies.
12. Sensory evaluation
13. Explain derived position from kneeling and mention advantages and disadvantage for the same.
14. Effects and uses of hydrotherapy
15. Factors contributing to a poor posture
16. Types of muscle work
17. Principles of manual muscle testing

SHORT ANSWERS

10 x 2 = 20 Marks

18. Three point gait
19. Kneading
20. Hold relax technique
21. Self stretching
22. Name two principles of aerobic exercises
23. Two merits of hydrotherapy
24. Define PNF.
25. Define co-ordination.
26. What is a motor unit?
27. Isometric contraction



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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.

LONG ESSAYS (Answer any Two)

2 x 10 = 20 Marks

1. Define pain. Explain the modulation of pain through pain gate control theory. Add a note on modulation of pain by IFT.
2. Define Ultra Sound. Explain the production and its thermal effects in detail.
3. Define Faradic current. Write in detail about the Physiological and Therapeutic effects of faradic current.

SHORT ESSAYS (Answer any Twelve)

12 x 5 = 60 Marks

4. Explain indications and contraindications of SWD.
5. Define Burns its prevention and management.
6. Explain the procedure for training intrinsic foot muscles with faradic foot bath.
7. Anodal Galvanism
8. Explain production of UVR.
9. Explain indications and contraindications of IDC.
10. Whirlpool bath
11. Moist heat therapy
12. Define Ionization its principles and techniques of Ionization:
13. HVPGS and its Parameters
14. Explain Neuromuscular junction in detail.
15. Explain physiological effects of Sinusoidal currents.
16. Explain Physiological effects of cryotherapy.
17. Write a note on Transformers.

SHORT ANSWERS

10 x 2 = 20 Marks

18. Testing of SWD apparatus
19. Uses of PEME
20. Define Latent heat.
21. What is PUVA?
22. Classify pain fibers.
23. Mention the properties of LASER.
24. Accommodation
25. Write any two uses of Biofeedback in Physiotherapy.
26. Define Rebox type current.
27. Define electromagnetic spectrum.



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Pathology – (RS4)

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 and classify Shock. Describe the pathogenesis, clinical features and stages of Hypovolumic Shock.
2. Classify Bone tumors. Describe the clinical features, radiological features, gross and microscopy of Osteosarcoma.

SHORT ESSAYS (Answer any Four)

4 x 5 = 20 Marks

3. Fat embolism
4. Clinical features of Vitamin D deficiency
5. Laboratory investigations and clinical features of Hemophilia
6. Ghon's complex
7. Gross and microscopy of Pleomorphic adenoma

SHORT ANSWERS

5 x 2 = 10 Marks

8. Mention 4 secondary causes of diabetes mellitus.
9. Mention the events of acute inflammation.
10. Give 4 causes of thrombocytopenia.
11. Enlist 4 tumor markers.
12. Mention 2 differences between Wet and Dry Gangrene.



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Time: Three Hours

Max. Marks: 40 Marks

Microbiology

Q.P. Code : 2709

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

(Note : Both OP 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. Name the organisms causing meningitis. Discuss the morphology, pathogenicity and laboratory diagnosis of Streptococcus pneumonia.
2. Define Pyrexia of unknown origin. Enumerate the organisms causing it. Discuss the laboratory diagnosis of typhoid fever.

SHORT ESSAYS (Answer any Four)

4 x 5 = 20 Marks

3. Microfilaria
4. Prophylaxis of polio
5. Laboratory diagnosis of fungal infections
6. Mechanisms of innate immunity
7. Laboratory diagnosis of urinary tract infections

SHORT ANSWERS

5 x 2 = 10 Marks

8. Name four organism causing gastroenteritis.
9. Name four opportunistic infections
10. Name two differential staining methods.
11. Mantoux test
12. Name four sexually transmitted diseases.



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Pharmacology (RS - 3 & RS - 4) Q.P. CODE: 2710

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

LONG ESSAYS (Answer any Two)

2 x 10 = 20 Marks

1. Classify Glucocorticoids. Describe the actions, adverse effects and uses of these drugs.
2. Classify Anti-Hypertensive. Describe the actions, adverse effects and uses ACE inhibitors.
3. Classify drugs used in Peptic ulcer. Describe the actions, adverse effects and uses of H₂-Receptor blockers.

SHORT ESSAYS (Answer any Eight)

8 x 5 = 40 Marks

4. Metformin.
5. Drug Antagonism.
6. Classify Non-steroidal Anti-inflammatory drugs and mention the clinical uses.
7. Write a note on Biotransformation?
8. Write the adverse effects and uses of Phenytoin.
9. Write a note on Methotrexate?
10. Write a note on Digoxin?
11. Write a note on Methylxanthines?
12. Write a note on Nitrates?
13. Write a note on Heparin?

SHORT ANSWERS

10 x 2 = 20 Marks

14. Name two antithrombotic drugs and mention the adverse effect of each.
15. Adverse effects of L-dopa.
16. Sublingual route.
17. List four lipid lowering drugs.
18. Name one loop diuretic and mention three uses.
19. Write the adverse effects of Benzodiazepines?
20. Name two drugs used in GOUT and mention the adverse effect of any one.
21. Mention any two purgatives. Give their mechanism of action.
22. Ipratropium bromide.
23. Idiosyncrasy.



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Max. Marks: 100 Marks

Exercise Therapy (RS-3 & RS-4)

Q.P. CODE: 2711

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

LONG ESSAYS (Answer any Two)

2 x 10 = 20 Marks

1. Define PNF. Explain the basic neurophysiological principles of PNF. Add a note on techniques of facilitation.
2. Write in detail about principles and techniques of mobilization of shoulder joint. What is biomechanical basis of mobilization?
3. Define massage. List the various techniques in massage with therapeutic effects for each.

SHORT ESSAYS (Answer any Twelve)

12 x 5 = 60 Marks

4. Define coordination. Explain uses and techniques of frenkles exercises.
5. What is Pranayama? Explain the principles and techniques
6. What are the types of balance retraining?
7. Explain the postural mechanism and write any two corrective exercises for scoliosis
8. Explain the properties of water and clinical significance of them in hydrotherapy
9. Describe about the components of aerobic exercise program
10. Define suspension therapy. Explain the principles and uses and types of suspension
11. What is MMT? List out the principles and merits of MMT
12. Classify passive movement. Explain the techniques of passive movements
13. Explain principles, effects and use of free exercises. Write any four exercises for knee joint in FWB
14. What is PRE? List out the techniques and explain any one in detail
15. Describe the advantages and disadvantages of group exercises
16. Principles and uses of mat exercises
17. Define crutch gait. Write about partial weight bearing crutch gait

SHORT ANSWERS

10 x 2 = 20 Marks

18. What do you mean by Trendelenberg gait?
19. List out the effects of De-conditioning on the musculo skeletal system.
20. What is Repetition maximum?
21. Hyperplasia and hypertrophy
22. Valsalva maneuver
23. Karovnen's formula
24. Romberg sign
25. Concave - convex role
26. Sherrington's law of reciprocal innervations
27. Mention any two derived positions of kneeling



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Time: Three Hours

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 (Answer any Two)

2 x 10 = 20 Marks

1. Describe the methods of production heat by short wave diathermy
2. Write in detail the principles of production of interferential currents
3. Describe the various methods of pain modulation

SHORT ESSAYS (Answer any Twelve)

12 x 5 = 60 Marks

4. Construction and types of condensers
5. Physiological effects of faradic current
6. Therapeutic uses of wax therapy
7. Cathodal galvanism
8. Mechanical effects of ultrasound
9. Methods of application of electrodes in TENS
10. Dangers of ultra violet radiation
11. Contraindications for Cryotherapy
12. Iontophoresis for the treatment of hyperhidrosis
13. Types of infra red radiation lamps
14. Properties of LASER
15. Indications and contraindications for whirlpool bath
16. Physiological effects of microwave diathermy
17. Faradic - Galvanic test

SHORT ANSWERS

10 x 2 = 20 Marks

18. Define Ohm's law
19. Define motor point
20. Mention any four absolute contraindications for neuromuscular electrical stimulation
21. Define phonophoresis
22. Define rheobase and chronaxie
23. Direct Piezo electric effect
24. Define burst TENS
25. Define first degree erythema with application of ultra violet radiation
26. Parameters of pulsed electromagnetic energy
27. Parameters of diphase fixe



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RESEARCH METHODOLOGY & BIostatISTICS
(RS-3 & RS-4)

Q.P. CODE: 2713

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

LONG ESSAYS (Answer any Two)

2 x 10 = 20 Marks

1. Define research. Explain objectives and criteria for a good research.
2. Define biostatistics. Explain characteristics of biostatistics.
3. Explain scales of measurement.

SHORT ESSAYS (Answer any Eight)

8 x 5 = 40 Marks

4. Measures of central tendency
5. Criteria for good sampling
6. Difference between questionnaire and schedule
7. Stratified sampling
8. Chi-square test
9. Skewness and kurtosis
10. Explain steps involved in the processing of data
11. Describe basic concept concerning testing of hypotheses
12. Analysis of variance and covariance (ANOVA&ANACOVA)
13. Difference between descriptive and inferential statistics.

SHORT ANSWERS

10 x 2 = 20 Marks

14. Define mode
15. Ranking scale
16. Coding
17. Distinguish between primary and secondary data
18. Frequency polygon
19. Case-control study
20. Define statistics
21. Standard deviation
22. Type I and Type II error
23. Define research design



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