Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Anaesthesia Technology & Operation Theatre Technology
Degree Examination – 07-May-2026

Time: Three Hours **Max. Marks: 100 Marks**

Introduction to Anaesthesia & OT Technology

Q.P. CODE: 3391

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 in detail the safety system in anaesthesia machine and medical gas supply
2. Describe the technique of endotracheal intubation
3. Describe the general principles of sterilization. Write an elaborate notes on moist and dry heat sterilization

SHORT ESSAYS (Answer any ten) **10 x 5 = 50 Marks**

4. Describe about gas plasma sterilization
5. Mention the personal protective equipment and describe the role in infection control
6. Describe systemic inflammatory response syndrome in association with surgery

   or

   Enumerate three different patient position used during surgery. Describe in detail about lithotomy position
7. What is meant by High Level Disinfection (HLD)? What factors determines the effectiveness and describes its methods?
8. Describe the operation theatre air-condition system. How laminar flow reduces the incidence of infections?
9. Describe the role of theatre assistant in monitoring safety of OT
10. Discuss about the Ozone gas sterilization. Mention the advantage and disadvantage of it
11. Describe the general function of operation theatre
12. How will you check the sterility of instruments?
13. Universal barrier precautions to be observed in theatres
14. Enlist the things to be kept prior to all the surgery in the operating room
15. Causes and management of difficult intubation

SHORT ANSWER (Answer any ten) **10 x 3 = 30 Marks**

16. Bain’s circuit
17. Premedication
18. Name three local anaesthetics and its dosages
19. Complications of general anaesthesia
20. Induction agents – IV and inhalational
21. Diathermy
22. Desflurane
23. 0.45% normal saline composition and indication
24. Soda lime canister
25. Laryngoscope

26. Pin index safety system
27. Precautions to be taken before blood transfusion

II Year B.Sc. Anaesthesia Technology & Operation Theatre Technology
Degree Examination – 05-May-2026

Time: Three Hours **Max. Marks: 50 Marks**

Applied Pathology – (Sec A)
Q.P. CODE: 3399

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary
(Note: Both QP Codes 3399 and 3400 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one) **1 x 10 = 10 Marks**

1. Explain the causes, pathogenesis and clinical features of Bronchitis.
2. Define anemia. List the morphological types of anemia. Add a note on Hemolytic anemia.

SHORT ESSAYS (Answer any five) **5 x 5 = 25 Marks**

3. Describe etiopathogenesis of emphysema.
4. Explain briefly about glomerulonephritis.
5. Describe etiopathogenesis of myocardial infarction.
6. Define and classify hypertension. Write briefly about pathological effects of hypertension.
7. Explain briefly about acute renal failure.
8. Describe pneumoconiosis.

SHORT ANSWER (Answer any five) **5 x 3 = 15 Marks**

9. Name six major risk factors of atherosclerosis.
10. Define leukocytosis with examples.
11. Name the laboratory tests for bleeding disorders.
12. List the causes of aneurysm.
13. Classify cardiomyopathy.
14. Draw a neat labelled diagram of Eosinophil.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Anaesthesia Technology & Operation Theatre Technology Degree Examination – 05-May-2026

Time: Three Hours **Max. Marks: 50 Marks**

Applied Microbiology – (Sec B)

Q.P. CODE: 3400

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary
(Note: Both QP Codes 3399 and 3400 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one) **1 x 10 = 10 Marks**

1. Name the organisms spread by air. Describe in detail about tuberculosis infection and add a note on prevention.

2. Enumerate the viruses that are transmitted by blood and body fluids. Describe in detail the laboratory diagnosis of HIV infection. Add a note on prophylaxis.

SHORT ESSAYS (Answer any five) **5 x 5 = 25 Marks**

3. Clostridium difficile.
4. Pathogenesis and laboratory diagnosis of Hepatitis C virus.
5. CRBSI (Catheter Related Blood Stream Infection).
6. MRSA.
7. Pathogenesis of Herpes simplex virus.
8. Needle stick injuries and its prevention.

SHORT ANSWER (Answer any five) **5 x 3 = 15 Marks**

9. Laboratory diagnosis of Hepatitis A infection.
10. Ventilator and its care.
11. One Atmosphere Uniform Glow Discharge Plasma (OAUGDP).
12. Haemophilus influenzae.
13. Name three culture methods.
14. Cytomegalovirus.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Allied Health Sciences Degree Examination – 05-May-2026

Time: Three Hours **Max. Marks: 50 Marks**

APPLIED PATHOLOGY – (Sec A) - (RS-3)
(Anaesthesia Technology and Operation Technology)
Q.P. CODE: 3404

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary
(Note: Both QP Codes 3404 and 3405 are to be answered within total duration of 3 hours)

LONG ESSAYS **1 x 10 = 10 Marks**

1. Discuss the risk factors and pathogenesis of Myocardial Infarction. Add a note on enzyme changes in Myocardial Infarction

SHORT ESSAYS (Question No. 4 choice) **5 x 5 = 25 Marks**

2. Discuss causes and morphology of pulmonary edema
3. End stage renal disease – causes and complications
4. Normal values of RBC, WBC and platelet count in adult male
   OR
   Briefly explain causes and laboratory diagnosis of bleeding disorders
5. Laboratory diagnosis of Iron deficiency anemia
6. Pneumoconiosis – types and pathogenesis

SHORT ANSWER (Question No.9 choice) **5 x 3 = 15 Marks**

7. Causes of hydronephrosis
8. Urine findings in Nephritic syndrome
9. List four complications of artificial valves
   OR
   List four causes of pericardial effusion
10. Normal WBC count and cause of Eosinophilia
11. Types of renal calculi

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Allied Health Sciences Degree Examination – 05-May-2026

Time: Three Hours **Max. Marks: 50 Marks**

Applied Microbiology – (Sec B) (RS-3)
(Anaesthesia Technology and Operation Technology)
Q.P. CODE: 3405

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary
(Note: Both QP Codes 3404 and 3405 are to be answered within total duration of 3 hours)

LONG ESSAYS **1 x 10 = 10 Marks**

1. Describe in detail infection control measures employed in ICU's.

SHORT ESSAYS (Question No. 4 choice) **5 x 5 = 25 Marks**

2. Methicillin resistant staphylococcus aureus mechanism of resistance and its detection.
3. Varicella Zoster – modes of transmission and its pathogenicity.
4. Microbiological surveillance for operation theatre.
   OR
   Ventilator associated pneumonia.
5. Catheter related blood stream infections.
6. CSSD.

SHORT ANSWER (Question No.9 choice) **5 x 3 = 15 Marks**

7. Rinse technique.
8. Use of personnel protective equipment.
9. Name three air borne infections.
   OR
   Streptococcus pneumoniae – pathogenicity.
10. Needle stick injury.
11. Hepatitis B vaccine.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Allied Health Sciences Degree Examination – 07-May-2026

Time: Three Hours **Max. Marks: 100**

APPLIED PHARMACOLOGY (RS-3)
(Anaesthesia Technology and Operation Technology)
Q.P. CODE: 3406

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

LONG ESSAYS (Question No.2 Choice) **2 x 10 = 20 Marks**

1. Classify General anesthetics. Enumerate inhalational anesthetics, compare and contrast halothane and ether
2. Classify beta – lactam antibiotics. Write in detail about mechanism of action and uses of penicillin

   OR

   Classify diuretics. Write mechanism of action, uses and adverse effects of loop diuretics

SHORT ESSAYS (Question No.5 & 10 choice) **10 x 5 = 50 Marks**

3. Bland aresols in respiratory care
4. Uses of atropine
5. Adverse effects of tetracycline

   OR

   Compare and contrast heparin and warfarin
6. Intravenous fluids to correct electrolyte and acid-base imbalance
7. Pre-anesthetic medications
8. Uses of corticosteroids
9. Drug antagonism
10. Treatment of anaphylactic shock

    OR

    Compare and contrast d-tubocurarine and succinylcholine
11. Spinal Anesthesia
12. Rifampicin: Mechanism of action, uses and adverse effects

SHORT ANSWER (Question No. 15 & 20 choice) **10 x 3 = 30 Marks**

13. Define biotransformation. Mention its types
14. Adverse effects of phenytoin
15. Name two antiplatelets agent and two uses of same

    OR

    Name two oral iron preparations and two adverse effects of ferrous sulphate
16. Mention three mucolytic agents
17. Why adrenaline is combined with lignocaine?
18. Mention three antiarrhythmic drugs
19. Mechanism of action of digoxin
20. Why morphine is not used in head injury?

    OR

    Techniques of local anaesthetisa
21. Mention three drugs used in treatment of myocardial infarction
22. Treatment of OP poisoning

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Operation Theatre Technology Degree Examination – 14-May-2026

Time: Three Hours **Max. Marks: 80**

MEDICINE RELEVANT TO OPERATION THEATRE TECHNOLOGY (RS2)
Q.P. CODE: 1242

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. 50 years old male patient with COPD is posted for abdominal surgery under general anesthesia. Add a note on anesthesia consideration and intra operative management for this case
2. Classify hypertension. Describe its etiology, clinical features, investigations and treatment
3. Define pregnancy induced hypertension (PIH). Illustrate in anesthesia consideration and intra operative management of emergency LSCS due to PIH

SHORT ESSAYS (Answer any Eight) **8 x 5 = 40 Marks**

4. Describe the physiological challenges in neonates during surgery
5. **Describe etiology, clinical features and management of stroke**
6. Prepare a checklist to prepare OT for pediatric surgery
7. Explain etiology, investigations and management of emphysema
8. Explain the preoperative, intraoperative, post-operative management of patient posted for Coronary Artery Bypass Grafting
9. Explain management of patient with low respiratory reserve in the operation theater
10. Discuss the management of chronic liver failure patient posted for liver transplantation
11. Add a note on management of patient with septic shock
12. Explain the diagnosis and treatment of chronic renal failure
13. Add a note on pre-anesthetic medication and assessment for obese patient

SHORT ANSWERS (Answer any Ten) **10 x 2 = 20 Marks**

14. What is the role of an OT technologist in managing diabetic patients?
15. Define and classify shock
16. How do you monitor and treat asthmatic patients during surgery?
17. What is the significance of monitoring pulse oximetry in renal failure patients?
18. Define post – operative care for CVA patients
19. Enlist any four causes of renal failure
20. Types of diabetes
21. Pre-operative assessment for patients with epilepsy
22. Glasgow Coma Scale (GCS)
23. Diet management in chronic renal failure
24. Enlist any four diseases of respiratory system
25. Oxygen therapy

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Anaesthesia Technology Degree Examination – 14-May-2026

Time: Three Hours **Max. Marks: 80**

MEDICINE RELEVANT TO ANAESTHESIA TECHNOLOGY (RS-2)
Q.P. CODE: 1238

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 pathology, Diagnosis and management of bronchial asthma
2. Classify anemia and write in detail about the etiology, clinical features and treatment of iron deficiency anemia
3. Classify diabetes mellitus. Describe the clinical characteristics, diagnosis and management of Type 2 diabetes mellitus

SHORT ESSAYS (Answer any Eight) **8 x 5 = 40 Marks**

4. Basic life support
5. Classification of obesity
6. Diabetic keto acidosis
7. Causes and management of CVA
8. Clinical features of eclampsia
9. Management of ARDS
10. Classification of anti-hypertensive drugs
11. Difference between adult and pediatric airway
12. Monitoring of IHD patients
13. Treatment of septic shock

SHORT ANSWERS (Answer any Ten) **10 x 2 = 20 Marks**

14. Atropine
15. Glucose tolerance test
16. Treatment of status asthmaticus
17. Name four oral hypoglycemic drugs
18. Diagnosis of CVA
19. Diazepam
20. Name two antianginal drugs
21. Complications of COPD
22. Bedside pulmonary function test
23. APGAR score
24. Salbutamol
25. Diagnosis of Chronic Bronchitis

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Anaesthesia Technology Degree Examination – 12-May-2026

Time: Three Hours **Max. Marks: 100**

INTRODUCTION TO ANAESTHESIA TECHNOLOGY (RS-3)

Q.P. CODE: 3268

(QP Contained two pages)

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

LONG ESSAYS (Question No.2 Choice) **2 x 10 = 20 Marks**

1. Describe Boyle's anaesthesia machine in detail, with appropriate diagrams. Write a brief note on the importance of checking the anaesthesia machine including the key features of the machine check list
2. Define Hypoxia. Categorise the types and briefly explain each type. Add a note on goals of oxygen therapy

   OR

   Describe with a neat, labelled diagram, the parts and features of an endotracheal tube. List four complications of endotracheal tube use. List out the different types of endotracheal tubes, with one advantage and one disadvantages of each

SHORT ESSAYS (Question No.5 & 10 choice) **10 x 5 = 50 Marks**

3. a) Capnography: working principle, normal graph uses
   b) Pulse oximetry: working principle, labelled diagram, uses, sites
4. Classify breathing systems. Describe any one in detail with a neat labelled diagram
5. Enlist the gas laws. Elaborate any two in detail with applications in anaesthesia

   OR

   List out the methods of sterilization. How are the following sterilized / disinfected?
   a) Anaesthesia machine
   b) Laryngoscope and its blade
   c) Endotracheal tube
   d) Epidural needle
   e) Nasopharyngeal temperature probe
6. Write a brief note on W.T.G. Morton and his contributions
7. Elaborate on the Golden rules of anaesthesia
8. Explain in detail the importance of informed consent
9. Define oxygen therapy. Classify the various devices used for oxygen delivery. List a few hazards of O_2 therapy
10. Categorise the different types of Vapourisers. Enlist some points regarding the care and hazards of Vapourisers. How do we fill them

    OR

    Colour coding in anaesthesia
11. Add a note on evolution of drugs, equipment and techniques in the modern anaesthesia era
12. Mallampati grading. Explain with labelled diagrams

SHORT ANSWER (Question No. 15 & 20 choice) **10 x 3 = 30 Marks**

13. Components of sodalime canister
14. a) Use of oxygen flush
    b) Pressure and velocity of O_2 on usage of the flush

15. Diameter index safety system
    OR
    Ayre's T piece
16. Guedel's airway
17. Premedication and purpose of each drug
18. Complications of spinal anaesthesia
19. Bodok's seal
20. What are the different types of gas flows? What gas laws govern them?
    OR
    What is Entonox? Mention the uses and precautions to be taken during use
21. World anaesthesia day
22. Differential anatomical and apparatus dead space

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Allied Health Sciences Degree Examination – 14-May-2026

Time: Three Hours **Max. Marks: 100**

Medicine Relevant to OT Technology (RS-3)
(Anaesthesia Technology and Operation Technology)
Q.P. CODE: 3270

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

LONG ESSAYS (Question No.2 Choice) **2 x 10 = 20 Marks**

1. **Discuss the etiology, clinical features and management of COPD. Add a note on preoperative preparation of COPD patients**
2. Explain the physiological bases, rationale and method of cardiopulmonary resuscitation (CPR)

   OR

   Discuss about anticipated intra operative problems and its management for anesthesia on elderly patients (Geriatric population)

SHORT ESSAYS (Question No.5 & 10 choice) **10 x 5 = 50 Marks**

3. Fentanyl
4. Temperature monitoring
5. Morbid obesity

   OR

   Treatment of hypothermia
6. Magnesium and its uses
7. Type 1 Diabetes Mellitus
8. Non invasive Mechanical ventilation (NIV)
9. Fresh frozen Plasma
10. Post partal hemorrhage

    OR

    Anesthesia considerations in a patient with Ischemic Heart Disease (IHD)
11. Epilepsy
12. **Explain briefly the clinical features, management and complication of Type II Diabetes Mellitus**

SHORT ANSWER (Question No. 15 & 20 choice) **10 x 3 = 30 Marks**

13. Thyroid hormones
14. Antibiotic resistance
15. Vasopressin

    OR

    Morphine
16. Haemaccel
17. Lithotomy position
18. Dopamine
19. **Rantitidine and Pantoprazole**
20. Post exposure prophylaxis of HIV

    OR

    APGAR score
21. Causes of Haematemesis
22. Cisatracurium

    Or

    Mention three Antihypertensive drugs

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Anaesthesia Technology & Operation Theatre Technology
Degree Examination – 14-May-2026

Time: Three Hours **Max. Marks: 100 Marks**

Medicines Relevant to Anaesthesia & OT Technology

Q.P. CODE: 3392

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 various method DVT prevention during long surgical procedure, including pre-operative DVT prophylaxis**
2. **Full term pregnant lady with full stomach. Discuss aspiration prevention protocols. Add a note on labor analgesia**
3. Classify arrythmias. Explain in detail about management of patient with ventricular fibrillation.

SHORT ESSAYS (Answer any ten) **10 x 5 = 50 Marks**

4. Universal precautions.
5. Hyperkalemia.
6. Status epilepticus.
7. Liver function test.
8. TURP syndrome
   or
   Briefly explain diagnosis and management of Type II Diabetes Mellitus
9. Anemia in pregnancy.
10. Signs and symptoms of chronic renal failure.
11. Pain management in paediatric patients.
12. Complications of obesity.
13. Larngeal spasm.
14. **Respiratory acidosis**
15. Management of Intra operative myocardial infarction.

SHORT ANSWER (Answer any ten) **10 x 3 = 30 Marks**

16. Insulin.
17. RFT.
18. Causes of anemia.
19. APGAR score.
20. ECG.
21. Oral hypoglycemic drugs.
22. Glucose tolerance test.
23. Diuretics.
24. Trendeleberg positioning.
25. Dopamine.
26. Orthostatic Hypotension
27. Foetal monitoring.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Anaesthesia Technology & Operation Theatre Technology Degre
Examination – 12-May-2026

Time: Three Hours **Max. Marks: 100**

APPLIED PHARMACOLOGY
Q.P. CODE: 3401

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 skeletal muscle relaxants. Discuss the mechanism of action, uses and adverse effects of succinylcholine
2. Classify antihypertensive drugs. Write the therapeutic uses and adverse effects of ACE inhibitors
3. Classify drugs used in bronchial asthma. Discuss the mechanism of action, therapeutic uses and adverse effects of salbutamol

SHORT ESSAYS (Answer any ten) **10 x 5 = 50 Marks**

4. Warfarin
5. Adverse drug reactions
6. Uses and adverse effects of morphine
7. Uses and adverse effects of glucocorticoids
8. Classify local anaesthetics. Write the uses of Lignocaine
9. Therapeutic uses of benzodiazepines
10. Proton pump inhibitors
11. Antiplatelet drugs
12. Combination of antimicrobial agents
13. Intravenous general anaesthetics
14. Organic nitrates
15. Second generation antihistamine

SHORT ANSWER (Answer any ten) **10 x 3 = 30 Marks**

16. Cardioplegic solutions
17. Name three IV fluid preparations and mention their uses
18. Name two coronary vasodilators
19. Name three hypolipidemic drugs
20. Antifibrinolytics
21. Name three drugs used in treatment of dry cough
22. **Name three potassium sparing diuretics**
23. Enlist the drugs used to treat insomnia
24. Enumerate three immunosuppressants
25. Name three antiseptics and disinfectants
26. Name three antiemetics
27. **Name three anti anginal drugs**

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Operation Theatre Technology Degree Examination – 12-May-2026

Time: Three Hours **Max. Marks: 100 Marks**

Introduction to Anaesthesia & OT Technology (RS-3)

Q.P. CODE: 3407

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

LONG ESSAYS (Question No.2 Choice) **2 x 10 = 20 Marks**

1. What do you mean by Blood Transfusion? What are the different types of blood transfusion techniques? Write a note on blood transfusion reactions.

2. What do you understand by post-operative care? What is purpose of post anaesthesia care unit (PACU)? Mention the criteria to discharge the patient from PACU.

   OR

   Classify muscle relaxants. Explain in detail about the indications, mechanism of action, dose and complications of succinylcholine.

SHORT ESSAYS (Question No.5 & 10 choice) **10 x 5 = 50 Marks**

3. What are the infection control techniques implied inside OT.
4. Invasive and non-invasive blood pressure monitoring techniques.
5. How will you prepare an OT for an HIV positive case?

   OR

   Differences between crystalloids and colloids.
6. ETO (Ethylene Oxide) sterilization.
7. Minimum alveolar concentration.
8. Balanced anesthesia.
9. Mention the roles and responsibilities of a circulating staff during laparoscopic surgery.
10. Classify opioids. Write a note on Fentanyl.

    OR

    Hot air oven.
11. ETCO2 monitoring.
12. What is Lithotomy position? What are the different types of lithotomy position? Mention the care to be considered while performing lithotomy.

SHORT ANSWER (Question No. 15 & 20 choice) **10 x 3 = 30 Marks**

13. Name three musle relaxants.
14. Draw a neat labelled diagram of Miller Laryngoscope.
15. Three uses of artery forceps.

    OR

    Three surgeries done under prone position.
16. Formaldehyde Vs Glutaraldehyde.
17. Five moments of Hand Washing.
18. Name three cardiovascular complications during general anaesthesia.
19. Explain the normal ECG waveform.
20. Ultrasonic cleanser.

    OR

    Difference between oral and nasal airways.
21. Mention the difference between disinfection and sterilization with examples.
22. Pulse oximetry.

Rajiv Gandhi University of Health Sciences, Karnataka