

[LB 0212]

AUGUST 2012

Sub. Code: 1111

B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY

SECOND YEAR

PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY

Q.P. Code : 801111

Time : Three hours

Maximum : 100 marks

(180 Mins) Answer ALL questions in the same order.

I. Elaborate on:

**Pages Time Marks
(Max.)(Max.)(Max.)**

- | | | | |
|--|---|----|----|
| 1. Classify anti-arrhythmic drugs with suitable examples. Explain the mechanism of action and therapeutic use of any one class of anti-arrhythmic drug. | 7 | 20 | 10 |
| 2. Explain the mechanism of action of local anesthetics. Discuss the preparation and therapeutic uses of Xylocaine, Etidocaine and Bupivacaine. | 7 | 20 | 10 |
| 3. Define Sterilization. Classify sterilization methods and discuss in detail about the dry heat sterilization. | 7 | 20 | 10 |

II. Write Notes on:

- | | | | |
|--|---|----|---|
| 1. Therapeutic uses and adverse effects of Beta blockers. | 4 | 10 | 5 |
| 2. Pre-anesthetic medication. | 4 | 10 | 5 |
| 3. Role of inducing agents in general anesthesia. | 4 | 10 | 5 |
| 4. Mechanism of action of Diazepam. | 4 | 10 | 5 |
| 5. Compare and contrast the pharmacology of Morphine and pethidine. | 4 | 10 | 5 |
| 6. Classify Antihistamines. Explain briefly the clinical uses of antihistamines. | 4 | 10 | 5 |
| 7. Cause of wound infection and Wound healing. | 4 | 10 | 5 |
| 8. Sterilization using radiation. | 4 | 10 | 5 |

III. Short Answers on:

- | | | | |
|---|---|---|---|
| 1. Adverse reactions of Insulin. | 2 | 4 | 3 |
| 2. Therapeutic uses of Nitroglycerine. | 2 | 4 | 3 |
| 3. What are antibiotics. List any four antibiotics used in the treatment of bacterial infections. | 2 | 4 | 3 |
| 4. Effects of Mannitol in the treatment of edema. | 2 | 4 | 3 |
| 5. Role of Oxytocin in the induction of labor. | 2 | 4 | 3 |
| 6. Pharmacological actions of Fentanyl. | 2 | 4 | 3 |
| 7. Mechanism of action of Protamine sulphate. | 2 | 4 | 3 |
| 8. Types of filters used in sterilization by filtration method. | 2 | 4 | 3 |
| 9. Prevention and treatment of IV associated infections. | 2 | 4 | 3 |
| 10. What is meant by arrhythmia. Discuss the various types of cardiac arrhythmias. | 2 | 4 | 3 |

[LC 0212]

FEBRUARY 2013

Sub. Code: 1111

B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY

SECOND YEAR

PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY

Q.P. Code : 801111

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

I. Elaborate on:

3x10=30

1. Give mode of action, examples and application for the following chemical disinfectants.
 - a. Alcohol
 - b. Aldehyde
 - c. Phenol
 - d. Dyes
 - e. Hydrogen peroxide
2. Detail sketch on Urinary tract infection, pathogenicity and prevention.
3. Write about Classification of bronchodilators. Add note on theophylline.

II. Write Notes on:

8x5=40

1. Construction and operation of autoclave
2. IV associated infections
3. Filtration
4. S.typhi and S.typhimurium
5. Atropine
6. Acid poisoning
7. Mannitol
8. Diazepam

III. Short Answers on:

10x3=30

1. Define sterilization and disinfection with examples
2. Bacteriostasis and Bactericidal
3. Prevention of hospital acquired infections
4. Flaming and incineration
5. Wound infections
6. Azithromycin
7. Paracetamol
8. Dopamine
9. Haemaceal, hetastarch
10. Ondansetron

[LF 0212]

AUGUST 2014

Sub. Code: 1111

**B.SC. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
SECOND YEAR**

PAPER I – APPLIED PHARMACOLOGY & MICROBIOLOGY

Q.P. Code: 801111

Time : Three hours

Maximum : 100 marks

Answer All Questions.

I. Elaborate on:

(3 x 10 = 30)

1. Define General Anaesthesia. Describe briefly about inducing agents.
2. Classify sedative hypnotics. Write the mechanism of action, adverse effects & uses of diazepam.
3. Enumerate Local Anaesthetics. Write in detail about Lidocaine.

II. Write notes on:

(8 x 5 = 40)

1. Neostigmine
2. Dobutamine
3. Frusemide
4. Pethidine
5. H₂ blockers
6. Paracetamol
7. Amiodarone
8. Atenolol

III. Short Answers on:

(10 x 3 = 30)

1. Mention various groups of drugs used in Hypertension.
2. What are antacids. Give some examples.
3. Role of Adrenaline as an emergency drug.
4. Enumerate the Vasodilators.
5. Succinyl choline
6. Techniques of Inhalation of anaesthetics
7. Glycopyrrolate
8. Ondansetron
9. Hetastarch
10. What are NSAIDs. Write their mechanism of action.

[LG 0215]

FEBRUARY 2015

Sub. Code: 1111

**B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
SECOND YEAR**

PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY

Q.P. Code: 801111

Time : Three Hours

Maximum : 100 Marks

Answer All Questions.

I. Elaborate on:

(3 x 10 = 30)

1. Define and classify Muscle relaxants. Add notes on Mechanism of action, dosage and clinical significance.
2. Anti – Hypertensives.
3. Define Sterilization. Add notes on Dry and Moist heat methods.

II. Write notes on:

(8 x 5 = 40)

1. Chemical method of sterilization.
2. Disinfection and decontamination.
3. Respiratory tract infection.
4. Grams stain.
5. NSAIDS.
6. Indication of steroids.
7. Calcium channel blockers.
8. Anti – ulcer drugs.

III. Short Answers on:

(10 x 3 = 30)

1. Tocolytics.
2. Broncholytic agents.
3. Fight, Freight and Flight response.
4. Local anesthetics.
5. Diagnostic test for HCV.
6. Radiation.
7. Hot air oven.
8. What are the types of hospital acquired infection?
9. Salmonella typhi.
10. Usage of Ketamine.

[LH 0815]

AUGUST 2015

Sub. Code: 1111

**B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
SECOND YEAR**

PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY

Q.P. Code: 801111

Time : Three Hours

Maximum : 100 Marks

Answer All Questions.

I. Elaborate on:

(3 x 10 = 30)

1. What are Antihypertensives? Give classification and mechanism of action of various classes of drugs.
2. Define Sterilization. Add notes on moist heat sterilization its types with examples.
3. Define wound infection. Describe the types, mode of transmission, Prevention, Control measures and treatment.

II. Write notes on:

(8 x 5 = 40)

1. Antihypertensives used in pregnancy.
2. Toxicity of Atropine.
3. Treatment of Anaphylactic shock.
4. Use of local muscular relaxants.
5. Hepatitis C virus.
6. Hypersensitivity I and II.
7. Write about the prevention and control of Hospital associated infections.
8. Typhoid fever.

III. Short Answers on:

(10 x 3 = 30)

1. Various uses of β blockers.
2. Disadvantages of using ketamine.
3. Emergency use of Intramuscular (IM) adrenaline.
4. Therapeutic uses of diazepam.
5. Classification and mechanism of action of heparin and warfarin.
6. Respiratory tract infection.
7. Pasteurization.
8. Gram stain procedure.
9. Filtration method of sterilization.
10. Salmonella typhimurium.

**B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
SECOND YEAR**

PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY

Q.P. Code: 801111

Time : Three Hours

Maximum : 100 Marks

Answer All Questions.

I. Elaborate on:

(3 x 10 = 30)

1. Give classification of Narcotics. Describe the mechanism of action, side effects and therapeutic uses in brief.
2. Define Sterilization. Add notes on Dry heat sterilization its types with examples.
3. Define wound infection. Describe the types, mode of transmission, Prevention, Control measures and treatment.

II. Write notes on:

(8 x 5 = 40)

1. Uses of Furosemide.
2. Various preparation of Insulin.
3. Antihypertensives used in pregnancy.
4. Toxicity of Atropine.
5. Blood stream infection.
6. Typhoid fever.
7. Hepatitis C virus.
8. Hypersensitivity I and II.

III. Short Answers on:

(10 x 3 = 30)

1. Uses of penicillin and cephalosporins.
2. Mechanism of calcium channel blockers.
3. Various uses of β blockers.
4. Disadvantages of using ketamine.
5. Emergency use of Intramuscular (IM) adrenaline.
6. Symptoms of HIV-AIDS.
7. Respiratory tract infections.
8. Hot air oven.
9. Hypersensitivity III.
10. Define Filtration and its three types.

[LJ 0816]

AUGUST 2016

Sub. Code: 1111

B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY

SECOND YEAR

PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY

Q.P. Code: 801111

Time : Three Hours

Maximum : 100 Marks

Answer All Questions.

I. Elaborate on:

(3 x 10 = 30)

1. Classify Beta blockers. Write the uses and adverse effects of beta blockers.
2. Define local anaesthesia. Explain the mechanism of action, therapeutic uses and various preparation of Lignocaine.
3. Write in detail about blood stream infections.

II. Write notes on:

(8 x 5 = 40)

1. Pre anaesthetic medication.
2. Ca channel blockers.
3. Write a note on Antisialagogues.
4. Midazolam.
5. Pharmacology of Morphine.
6. Write a note on Nondepolarising muscle relaxants.
7. Autoclave.
8. Hepatitis B infection.

III. Short Answers on:

(10 x 3 = 30)

1. Uses of ephedrine.
2. Name two Angiotensin converting enzyme inhibitors and mention their uses.
3. Name two diuretics and their adverse effects.
4. Adverse effects of Aspirin.
5. Uses of Lorazepam.
6. What is Mucaine gel?
7. Decontamination.
8. Salmonella typhi.
9. Name two bronchodilatore and mention two adverse effects.
10. Filtration.

[LK 0217]

FEBRUARY 2017

Sub. Code: 1111

**B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
SECOND YEAR**

PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY

Q.P. Code: 801111

Time : Three Hours

Maximum : 100 Marks

Answer All Questions.

I. Elaborate on:

(3 x 10 = 30)

1. Classify sedatives and hypnotics. Explain the mechanism of action, uses and side effects of Diazepam.
2. Discuss the mode of administration, dilution, dosage, effects, uses and side effects of Adrenaline.
3. Define sterilization. Describe about chemical and gaseous methods of sterilization

II. Write notes on:

(8 x 5 = 40)

1. Mannitol.
2. Isoprenaline.
3. Amiodarone.
4. Neostigmine- action and therapeutic uses.
5. Chlorpromazine.
6. Ranitidine.
7. Opioid antagonists.
8. Moist heat.

III. Short Answers on:

(10 x 3 = 30)

1. Succinyl choline Apnoea.
2. Dexamethasone as antiemetic.
3. Name two antihistamines and mention their uses.
4. EMLA.
5. Insulin glargine.
6. Dry heat.
7. Name the organisms causing Respiratory tract infection.
8. Catheter associated infection.
9. Name two respiratory stimulants and mention their uses.
10. Uses of Indomethacin.

B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY

SECOND YEAR

PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY

Q.P. Code: 801111

Time : Three Hours

Maximum : 100 Marks

Answer All Questions.

I. Elaborate on:

(3 x 10 = 30)

1. Give classification of Narcotics. Describe the mechanism of action, therapeutic uses and adverse effects.
2. Classification of bronchodilators and add a short note on theophylline .
3. Detail account on Dry heat sterilization methods.

II. Write notes on:

(8 x 5 = 40)

1. Preparation and therapeutic uses of Xylocaine and Etidocaine.
2. Antihypertensives.
3. Bronchial asthma and its treatment.
4. Pharmacology of morphine and pethidine.
5. Any one blood stream infection in detail.
6. Bacteria and hospital acquired infections.
7. Salmonella typhi and paratyphi.
8. Principle and uses of gram staining.

III. Short Answers on:

(10 x 3 = 30)

1. Insulin and its adverse reaction.
2. Ondansetron.
3. Mechanism of calcium channel blockers.
4. Adverse reactions of any 2 diuretics.
5. Therapeutic uses of diazepam.
6. Types of filters.
7. Transmission of HIV.
8. Decontamination.
9. Pasteurization.
10. Hepatitis vaccination.

B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY

SECOND YEAR

PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY

Q.P. Code: 801111

Time : Three Hours

Maximum : 100 Marks

Answer All Questions.

I. Elaborate on:

(3 x 10 = 30)

1. Classify Beta blockers. Write the uses and adverse effects of beta blockers.
2. Physical methods of sterilization.
3. Pathogenesis, diagnosis and treatment of Wound infections.

II. Write notes on:

(8 x 5 = 40)

1. Classify Antihistamines. Add a note on the clinical uses of antihistamines.
2. Pre-anesthetic medication.
3. Mechanism of action of Diazepam.
4. Nondepolarising muscle relaxants.
5. Blood stream infections.
6. Type 1 Hypersensitivity.
7. Diagnosis of HIV.
8. Lower respiratory tract infections.

III. Short Answers on:

(10 x 3 = 30)

1. Adverse effects of sedative hypnotics.
2. Therapeutic uses of Xylocaine.
3. Theophylline.
4. Three examples of antacids.
5. Antifungal antibiotics.
6. Prevention of nosocomial infections.
7. Decontamination.
8. *Salmonella typhimurium*.
9. Any three IV associated infections.
10. Prevention of hepatitis infection.

B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
SECOND YEAR

PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY

Q.P. Code: 801111

Time : Three Hours

Maximum : 100 Marks

Answer All Questions.

I. Elaborate on:

(3 x 10 = 30)

1. Define and describe the properties of an Ideal Disinfectant. Enumerate the various Disinfecting agents and their applications.
2. Classify NSAID's. Write the mechanism of action and pharmacological action of salicylates. Therapeutic uses and adverse effects of salicylates.
3. Classify drugs used in peptic ulcer. Discuss the mechanism of action, uses and adverse effects of proton pump inhibitors.

II. Write notes on:

(8 x 5 = 40)

1. Nosocomal infections.
2. Benzo diazepines.
3. Pre-anesthetic medication.
4. Malignant Neuroleptic Syndrome.
5. COX-2 inhibitors.
6. Group B streptococci.
7. Propofol as an inducing agents.
8. Opportunistic fungal infections.

III. Short Answers on:

(10 x 3 = 30)

1. Mention four contraindication for morphine.
2. Name four peripherally acting skeletal muscle relaxants.
3. Potassium sparing diuretics.
4. What is fixed dose combination? Give two examples.
5. What are antitussives? Give two examples.
6. Drugs used in anaphylactic shock.
7. Mention two therapeutic uses of lignocaine.
8. Define agglutination and precipitation.
9. Write four general toxicities of cytotoxic drugs.
10. Mantoux test.

B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY

SECOND YEAR

PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY

Q.P. Code: 801111

Time : Three Hours

Maximum : 100 Marks

Answer All Questions.

I. Elaborate on:

(3 x 10 = 30)

1. Define and classify sterilization. Write about sterilization by moist heat.
2. Management of Bronchial asthma.
3. Classify Diuretics. Discuss the mechanism of action, therapeutic uses and complications of Frusemide.

II. Write notes on:

(8 x 5 = 40)

1. Therapeutic uses of atropine and its substitutes.
2. Hepatitis B virus.
3. Atypical antipsychotics.
4. Complications of General anaesthesia.
5. Autoclave.
6. Laboratory diagnosis of HIV infection.
7. Sodium valproate.
8. Centrally acting skeletal muscle relaxants.

III. Short Answers on:

(10 x 3 = 30)

1. Pulse polio immunization.
2. Uses of Diazepam.
3. Mention four Atypical anti psychotics.
4. Sterilization of operation theatre.
5. Drug therapy for vertigo.
6. Dissociative anesthesia.
7. Hot Air Oven.
8. Name the three steps in Polymerase chain reaction.
9. Ondansetron.
10. Ketorolac.

B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY

SECOND YEAR

PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY

Q.P. Code: 801111

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Give a detailed account of gaseous sterilization.
2. Name a few commonly occurring fungal infection and antifungal agents. Elaborate on any one of the antifungal agent.
3. Classify narcotics. Write in detail about the mechanism of action, uses and adverse reactions of any one of them.

II. Write notes on:

(8 x 5 = 40)

1. Pharmacokinetics of morphine and pethidine.
2. Diuretics.
3. NSAIDs – mechanism of action.
4. Salmonella typhi.
5. Zheil Neilson staining.
6. Decontamination.
7. Universal personal precautions.
8. Urinary tract infection.

III. Short answers on:

(10 x 3 = 30)

1. Bronchodilators-name five of them.
2. HIV associated opportunistic infection.
3. Action of Diazepam.
4. Streptococcal infection.
5. Succinyl choline.
6. Uses of indomethacin.
7. Lower respiratory tract infection - causes.
8. Muscle relaxants.
9. Antiemetics.
10. Control of wound infections.

B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY

SECOND YEAR

PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY

Q.P. Code: 801111

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Pre anaesthetic medication and write in detail about one of them.
2. Local anaesthetic drugs and write in detail about lignocaine.
3. Hospital acquired infection – define, enumerate and explain the preventive measure.

II. Write notes on:

(8 x 5 = 40)

1. Calcium channel blockers.
2. Hepatitis B vaccine.
3. Gaseous sterilisation.
4. Staphylococcus with special mention of MRSA.
5. Morphine – its uses and adverse reaction.
6. Uses of ephedrine.
7. Amiodarone.
8. Succinyl choline.

III. Short answers on:

(10 x 3 = 30)

1. Types of beta blockers.
2. Toxicity of atropine.
3. Ranitidine.
4. Sublingual route of drug administration.
5. Uses of aspirin.
6. Decontamination.
7. Antihistamines.
8. Gram staining
9. Negative pressure.
10. MRSA.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0321]

MARCH 2021

Sub. Code: 1111

(AUGUST 2020 EXAM SESSION)

B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY

SECOND YEAR (From 2010-2011, 2014-2015 and 2015-2016 onwards)

PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY

Q.P. Code : 801111

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Classify the drugs used as peripherally acting skeletal muscle relaxants. Discuss in detail the pharmacological actions and toxicity produced by d-Tubocurarine. Add a note on the rationale of using Dantrolene sodium in the management of Malignant Hyperthermia.
2. Classify antihypertensive drugs. Discuss the mechanism of action, therapeutic uses and adverse effects of Angiotensin receptor blockers.
3. Discuss briefly on viral vaccines.

II. Write notes on:

(8 x 5 = 40)

1. Complications of spinal anaesthesia.
2. Phenytoin sodium.
3. Hypersensitivity I and II.
4. Therapeutic uses of morphine.
5. Management of Status Epilepticus.
6. Principle and Procedure for Acid fast staining.
7. Pentazocine.
8. Varicella zoster.

III. Short Answers on:

(10 x 3 = 30)

1. Contra indications of adrenaline along with local anaesthetics.
2. Dantrolene.
3. Name four live bacterial vaccines.
4. Name two enzymes used in ELISA test.
5. Name two second generation Antihistamines and their therapeutic uses.
6. Pre anaesthetic rationale of atropine.
7. Mention any four preanaesthetic medicants.
8. Sublingual route of administration.
9. Biological controls for assessing dry heat and moist heat sterilization.
10. Treatment of drug allergy.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0222]

**FEBRUARY 2022
(AUGUST 2021 EXAM SESSION)**

Sub. Code: 1111

**B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
SECOND YEAR (From 2010-2011, 2014-2015 and 2015-2016 onwards)
PAPER I – APPLIED PHARMACOLOGY AND MICROBIOLOGY
Q.P. Code : 801111**

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Describe the types, colour codes and methods of Biomedical Waste management?
2. Discuss the mode of administration, dilution, dosage, effects, uses and side effects of Adrenaline.
3. Antihypertensives.

II. Write notes on:

(8 x 5 = 40)

1. Sterilization Indicators.
2. NSAIDS.
3. Personal Protective Equipment (PPE).
4. Anti ulcer drugs.
5. H₂ blockers.
6. Atenolol
7. Nosocomial infection
8. Type 1 Hypersensitivity.

III. Short answers on:

(10 x 3 = 30)

1. Urinary Tract infection.
2. Prevention of hospital acquired infection.
3. Vasodilators.
4. Antifungal antibiotics.
5. Muscle relaxants.
6. Salmonella Typhimurium.
7. What is Antisepsis?
8. Sterilization by filtration.
9. Theatre surveillance.
10. Fumigation.
