

Sub. Code: 1121

[LE 0212] FEBRUARY 2014 Sub. Code: 1121
B.S.C. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
THIRD YEAR
PAPER I – STERILIZATION PROCEDURES
Q.P. Code: 801121

Time: Three hours

Maximum: 100 marks

Answer ALL questions.

I. Elaborate on: **(3 x 10 = 30)**

1. Describe the evolution of surgery from ancient period to the modern times. Mention few discoveries which transformed the quality of the surgical practices and discuss any one of them in detail.
2. Classify hospital waste. Discuss the components of waste management with special mention about the colour coded bins
3. Discuss the criteria for defining surgical site infection (SSI). Enumerate the patient related risk factors for developing surgical site infection.

II. Write notes on: **(8 x 5 = 40)**

1. Preoperative care of patient undergoing general abdominal surgery.
2. Mention the personal protective equipment and describe the role in infection control.
3. Describe systemic inflammatory response syndrome in association with surgery.
4. What is meant by high level disinfection (HLD)? What factors determine the effectiveness and describe its methods.
5. Describe the operation theatre air-condition system. How laminar flow reduces the incidence of infections?
6. Define the role of theatre assistant in monitoring safety of OT
7. Discuss about the Ozone gas sterilization. Mention the advantage and disadvantage of it.
8. Describe the general function of operation theatre

III. Short Answers on: **(10 x 3 = 30)**

1. Enumerate the general factors which impede the healing of wound.
2. Write a short description and definition of some of the surgical terms
a. Cystectomy, b. Embolectomy, c. Fasciotomy
3. Write short notes on flash sterilization.
4. Explain the instrument for abscess drainage.
5. What are the causes for cross infections?
6. Explain the system used for killing microorganism in operation theatre.
7. Discuss the steps of surgical hand scrub.
8. Categories of people working in operation theatre
9. How will you disinfect gloves?
10. List the various packing material for sterilization.

[LF 0212]

AUGUST 2014

Sub. Code: 1121

**B.SC. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
THIRD YEAR
PAPER I – STERILIZATION PROCEDURE**

Q.P. Code: 801121

Time : Three hours

Maximum : 100 marks

Answer All Questions

I. Elaborate on:

(3x10=30)

1. What is chemical sterilization? Discuss its classification and some common agents used in hospital setup.
2. Classify sterilization methods and discuss about indicators to verify sterilization process.
3. Describe the types, color codes and methods of safe management of biomedical waste?

II. Write notes on:

(8x5=40)

1. Disinfection of HBV, HIV Contaminated Devices.
2. Mechanical cleaning apparatus.
3. Sterilization of catheters and tubes.
4. Describe some factors affecting the efficacy of disinfection and sterilization.
5. Classify biomedical wastes.
6. Hand washing principles.
7. Responsibilities of health worker in biomedical waste management.
8. Prevention of hospital acquired infection.

III. Short Answers on:

(10x3=30)

1. What is bio-safety?
2. Define sterilization
3. Name some ionizing radiation used for sterilization.
4. What is steam sterilization?
5. Define Pasteurization.
6. Name some mechanical cleaning machines.
7. Chemical indicators of sterilization standards.
8. Name some parameters to be monitored in autoclaving.
9. Disposal of waste sharps.
10. Gas sterilization methods.

[LG 0215]

FEBRUARY 2015

Sub. Code: 1121

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

PAPER I – STERILIZATION PROCEDURE

Q.P. Code: 801121

Time : Three Hours

Maximum : 100 Marks

Answer All Questions.

I. Elaborate on:

(3 x 10 = 30)

1. Elaborate on the physical methods of sterilization and write in detail about Hot Air Oven.
2. Write in detail about Universal Safety Precautions.
3. Write a note on Hospital Acquired Infections and their Prevention.

II. Write Notes on:

(8 x 5 = 40)

1. Pasteurisation.
2. Segregation of waste.
3. Post exposure prophylaxis.
4. Waste generated from Health Units.
5. Controls used in Autoclave.
6. Principle of Moist Heat.
7. Aldehyde Disinfectants.
8. Categories of Bio Medical Waste.

III. Short Answers on:

(10 x 3 = 30)

1. Define Sterilisation.
2. Define Nosocomial Infection.
3. What is Biomedical Waste?
4. What is Antisepsis?
5. Define Cleaning.
6. Usefulness of sunlight in sterilization.
7. Bacteria used as control in Autoclave.
8. Treatment and disposal of sharps is done by.
9. Types and uses of Red Bin.
10. How are Endoscopes sterilized?

[LH 0815]

AUGUST 2015

Sub. Code: 1121

B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY

THIRD YEAR

PAPER I – STERILIZATION PROCEDURES

Q.P. Code: 801121

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

I. Elaborate on:

(3 x 10 = 30)

1. Define Sterilization, classify it. Describe dry heat sterilization in detail.
2. Classify wrapping materials used in CSSD. Describe the methods of wrapping and packaging in CSSD.
3. What are the methods of cleaning instruments? Describe how will you clean tubing's and catheters?

II. Write notes on:

(8 x 5 = 40)

1. Ethylene oxide as a method of sterilization.
2. Fumigation of Theatres.
3. Biomedical waste Management.
4. How will you sterilize Endoscopes? Describe it?
5. Plasma sterilization.
6. Flash sterilization.
7. Describe the working of an Autoclave.
8. Classify Disinfectants.

III. Short Answers on:

(10 x 3 = 30)

1. How will you check the sterility of instruments?
2. Universal barrier precautions to be observed in Theatres.
3. How will you sterilize heat labile instruments?
4. What are chemical indicators used in CSSD?
5. How will you sterilize sharp instruments?
6. How will you sterilize gowns used in theatres?
7. What is the biological indicator used in Plasma sterilization?
8. What is the use of Bowie dick strips in Sterilization?
9. What is the biological indicator used in Autoclave?
10. What all should be checked once the sterilization process of a batch is over?

[LI 0216]

FEBRUARY 2016

Sub. Code: 1121

B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY

THIRD YEAR

PAPER I – STERILIZATION PROCEDURES

Q.P. Code: 801121

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

I. Elaborate on:

(3 x 10 = 30)

1. Define Sterilization, classify it and describe Moist heat sterilization in detail?
2. What are the methods used for cleaning of instruments? Describe the methods used to clean glassware, tubing's and receiver bowls.
3. What precautions will you take if the patient is a HIV infected patient? Describe Biomedical Waste Management in detail.

II. Write notes on:

(8 x 5 = 40)

1. Flash Sterilization.
2. Antiseptics.
3. Spaulding classification of medical devices.
4. Packing methods used in CSSD.
5. Sterilization Indicators.
6. How will you test a Disinfectant?
7. How will you clean contaminated Medical device at point of use?
8. Describe ultrasonic cleaner and its use.

III. Short Answers on:

(10 x 3 = 30)

1. What are the drawbacks of Ethylene oxide sterilization?
2. What is the sterilization control used in an Autoclave and what is the shelf life of items sterilized by it?
3. What is the shelf life of items sterilized by Plasma sterilization and Ethylene oxide?
4. Universal barrier precautions to be observed in Theatres.
5. How will you sterilize cystoscopes?
6. What are the chemical indicators?
7. How are plastic syringes sterilized?
8. How will you sterilize theatre gowns?
9. What steps will you take if indicators fail?
10. What is the use of Bowie dick strips in Sterilization?

**B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
THIRD YEAR
PAPER I – STERILIZATION PROCEDURES**

Q.P. Code: 801121

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on: (3 x 10 = 30)

1. Explain in detail about moist heat sterilization with principles, advantages and disadvantages of each.
2. What is chemical sterilization? Discuss its classification, mode of action, applications of some common agents used in hospital setup.
3. Classify hospital waste. Discuss the components of waste management with special mention about the colour coded bins.

II. Write notes on: (8 x 5 = 40)

1. Post exposure prophylaxis.
2. Waste generated from Health Units.
3. Aldehyde Disinfectants.
4. How will you sterilize Endoscopes? Describe it.
5. Flash sterilization methods.
6. Mechanical cleaning apparatus.
7. Disinfection of HBV, HIV Contaminated Devices.
8. Hand washing principles.

III. Short answers on: (10 x 3 = 30)

1. Ozone gas sterilization.
2. How will you disinfect gloves?
3. Disposal of waste sharps.
4. Cleaning of tubings and catheters.
5. Wrapping materials used in CSSD.
6. Biological indicators used in Plasma sterilization.
7. Principle of hot air oven.
8. Any 3 preventive measures to avoid nosocomial infections.
9. Distinguish dry heat and moist heat sterilization.
10. Use of detergents in cleaning process.

**B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
THIRD YEAR
PAPER I – STERILIZATION PROCEDURES**

Q.P. Code: 801121

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on: (3 x 10 = 30)

1. Elaborate on the physical methods of Sterilization. Write in detail about Hot Air Oven.
2. Classify the types of waste generated in the hospital. Write in detail about the disposal of waste.
3. Describe in detail about types and prevention of Nosocomial infections.

II. Write notes on: (8 x 5 = 40)

1. What are the steps for the decontamination of the suction equipment?
2. Responsibilities of Health workers in Bio Medical Waste Management.
3. Flash Sterilization.
4. Classify wrapping materials used in CSSD.
5. Precautions to be taken for loading ETO Sterilizer.
6. Aseptic Techniques.
7. Sterilization indicators.
8. Classify Disinfectants.

III. Short answers on: (10 x 3 = 30)

1. Discuss the steps of surgical hand scrub.
2. What is biosafety?
3. How will you disinfect gloves?
4. What is steam sterilization?
5. Types of filters.
6. Name and write the uses of color coded bins used in Bio Medical Waste.
7. Describe about CSSD.
8. What is meant by high level disinfection?
9. What is an incinerator and its uses?
10. Packing of instruments.

[LL 0817]

AUGUST 2017

Sub. Code: 1121

**B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
THIRD YEAR
PAPER I – STERILIZATION PROCEDURES**

Q.P. Code: 801121

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain in detail about Hospital Waste Management.
2. Explain the cycle of Sterile supply or functional flow of a CSSD.
3. Define disinfection. Classify and explain the use of Chemical disinfectants in the hospital.

II. Write notes on:

(8 x 5 = 40)

1. Plasma Sterilization.
2. Ethylene oxide as a method of sterilization.
3. How are the surgical instruments cleaned?
4. What are the precautions needed in handling Biohazardous materials.
5. Fumigation of Theatres.
6. Write in detail about infection control.
7. Post exposure prophylaxis.
8. What is a biological indicator?

III. Short answers on:

(10 x 3 = 30)

1. Define pasteurization.
2. Disposal of Sharp wastes.
3. How will you check the sterility of instruments?
4. What is the use of Bowie dick strips in Sterilization?
5. Management of segregate waste according to Biomedical Waste rules (1998).
6. APRONS.
7. Hand hygiene.
8. Droplet infection.
9. Flaming and incineration.
10. Stages of Decontamination.

**B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
THIRD YEAR
PAPER I – STERILIZATION PROCEDURES**

Q.P. Code: 801121

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Classify wrapping materials used in CSSD. Describe the methods of wrapping and packaging in CSSD.
2. Write in detail about Universal Safety Precautions.
3. Elaborate on the physical methods of sterilization.

II. Write notes on: **(8 x 5 = 40)**

1. Give a short note on Disposal of infectious wastes.
2. Give a brief note on EO gas sterilization.
3. Mechanical cleaning apparatus.
4. How laminar flow reduces the incidence of infections? Explain.
5. Advantages and disadvantages of ozone gas sterilization.
6. Discuss about operating room briefings and its importance.
7. General principles of disinfection.
8. Flash sterilization methods.

III. Short answers on: **(10 x 3 = 30)**

1. Bowie Dick test.
2. Any 3 Universal safety precautions.
3. Distinguish sterilization and disinfection.
4. Sterilization of heat labile instruments.
5. Importance of instrument inspection and checking in the packing area.
6. Cleaning of glasswares.
7. Define H₂O₂ plasma vapo sterilization.
8. What is a biological indicator? Give examples.
9. Fumigation of theatres.
10. Principle of Hot air oven.

**B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
THIRD YEAR
PAPER I – STERILIZATION PROCEDURES**

Q.P. Code: 801121

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Describe the methods of wrapping and packaging in CSSD.
2. Elaborate on the physical methods of sterilization and write in detail about autoclave.
3. Describe the types, color codes and methods of safe management of biomedical waste.

II. Write notes on:

(8 x 5 = 40)

1. Sterilization by Ethylene oxide.
2. Fumigation of Theatres.
3. Post exposure prophylaxis.
4. Filtration.
5. Aldehyde Disinfectants.
6. Principle of Hot air oven with diagram.
7. Hand washing principles.
8. Prevention of hospital acquired infection.

III. Short answers on:

(10 x 3 = 30)

1. How will you check the sterility of instruments?
2. H₂O₂ gas plasma vapo sterilization.
3. How will you sterilize heat labile instruments?
4. What is Antisepsis?
5. Mention any 3 Universal safety precautions.
6. Sterilization by sunlight.
7. Ozone gas sterilization
8. Disposal of waste sharps.
9. Gas sterilization methods.
10. Any 3 preventive measures to avoid nosocomial infections

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PAPER I – STERILIZATION PROCEDURES**

Q.P. Code: 801121

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Discuss in detail about Universal safety precautions.
2. What are the methods of cleaning instruments? Describe how you will clean tubings and catheters.
3. Explain in detail the precautions will you take if the patient is a HIV infected patient. Describe biomedical waste management.

II. Write notes on:

(8 x 5 = 40)

1. Antiseptics.
2. How will you test a Disinfectant?
3. Pasteurisation.
4. Segregation of waste.
5. Ethylene oxide as a method of sterilization.
6. Classify disinfectants.
7. Prevention of Hospital acquired infection.
8. Sterilization indicators.

III. Short answers on:

(10 x 3 = 30)

1. What is steam sterilization?
2. Bacteria used as controls in Autoclave.
3. How are Endoscopes sterilized?
4. Chemical indicators used in CSSD.
5. What is the use of Bowie dick strips in Sterilization?
6. What are chemical indicators?
7. What steps will you take if indicators fail?
8. How will you disinfect gloves?
9. Disposal of waste sharps.
10. What is an incinerator and its uses?

**B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
THIRD YEAR
PAPER I – STERILIZATION PROCEDURES**

Q.P. Code: 801121

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on: (3 x 10 = 30)

1. Discuss in detail about the physical methods of sterilization and write about Hot air oven.
2. Classify the wrapping materials used in CSSD. Describe the methods of wrapping and packaging in CSSD.
3. Classify hospital waste. Discuss the components of waste management and mention about the colour coded bins.

II. Write notes on: (8 x 5 = 40)

1. Hand washing principles.
2. Responsibilities of health worker in biomedical waste management.
3. Controls used in Autoclave.
4. Principles of Moist heat.
5. How will you sterilize Endoscopes? Describe it.
6. Spaulding classification of medical devices.
7. Describe ultrasonic cleaner and its use.
8. Classify disinfectants.

III. Short answers on: (10 x 3 = 30)

1. Name some mechanical cleaning machines.
2. Chemical indicators of sterilization standards.
3. Disposal of waste sharps.
4. Define Nosocomial infection.
5. What is antiseptics?
6. Universal barrier precautions to be observed in Theatres.
7. What is the biological indicator used in Plasma sterilization?
8. How are plastic syringes sterilized?
9. How will you sterilize theatre gowns?
10. Use of detergents in cleaning process.

**B.Sc. OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
THIRD YEAR
PAPER I – STERILIZATION PROCEDURES**

Q.P. Code: 801121

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Discuss the criteria for defining surgical site infection (SSI). Enumerate the patient related risk factors for developing surgical site infection.
2. Discuss about Hospital acquired infections and their Prevention.
3. Classify sterilization methods and explain about the indicators to verify sterilization process.

II. Write notes on: **(8 x 5 = 40)**

1. Fumigation of Theatres.
2. Explain the working of Autoclave.
3. Post exposure prophylaxis.
4. Packing methods used in CSSD.
5. How will you sterilize endoscopes? Describe it.
6. Hand washing principles.
7. Disinfection of HBV, HIV contaminated devices.
8. Personal protective equipment.

III. Short answers on: **(10 x 3 = 30)**

1. Pasteurization.
2. Responsibilities of health worker in biomedical waste management.
3. Aldehyde disinfectants.
4. How to sterilize sharp instruments?
5. How will you disinfect gloves?
6. Principles of hot air oven.
7. What is Antisepsis?
8. Usefulness of Sunlight in sterilization.
9. Drawbacks of Ethylene oxide sterilization.
10. What is incinerator and its uses?

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

[LR 1220]

**DECEMBER 2020
(AUGUST 2020 EXAM SESSION)**

Sub. Code: 1121

**BACHELOR IN OPERATION THEATRE & ANAESTHESIA TECHNOLOGY
THIRD YEAR – (Regulations from 2010-2011, 2014-2015 & 2015-2016)
PAPER I – STERILIZATION PROCEDURES
Q.P. Code: 801121**

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Classify Hospital Waste. Discuss the Components of Waste management with special mention about the Colour Coded Bins.
2. Classify Wrapping materials used in CSSD. Describe the methods of Wrapping and Packaging in CSSD.
3. What precautions will you take if the Patient is a HIV Infected Patient? Prevention of Hospital Acquired Infection.

II. Write notes on:

(8 x 5 = 40)

1. Spaulding classification of Medical Devices.
2. Mention signs and symptoms of severe Haemorrhage.
3. Fumigation of Theatres.
4. General principles of Disinfection.
5. Sterilization of Catheters and Tubes.
6. Personal Protective Equipment (PPE).
7. Describe the working of an Autoclave.
8. How will you clean contaminated Medical device at point of use?

III. Short answers on:

(10 x 3 = 30)

1. What are the drawbacks of Ethylene Oxide Sterilization?
2. What is the use of Bowie Dick Strips in Sterilization?
3. Fumigation of Theatres.
4. Principle of Hot Air Oven.
5. Use of Detergents in Cleaning process.
6. Flaming and Incineration.
7. Define Pasteurization.
8. Disposal of Waste Sharps.
9. Explain the instrument for Abscess Drainage.
10. Droplet Infection.

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

[AHS 0122]

JANUARY 2022

Sub. Code: 1121

(FEBRUARY 2021 & AUGUST 2021 EXAM SESSION)

B.Sc. OPERATION THEATRE & ANAESTHESIA TECHNOLOGY

THIRD YEAR

PAPER I – STERILIZATION PROCEDURES

Q.P. Code: 801121

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. List out the predisposing factors involved in Post operative wound infections. Add a note on methods in preventing Surgical site infections.
2. Define dry heat sterilization. Describe in detail about principle, functions and uses of Hot air oven.
3. What are Hospital associated infections? Enumerate various types. How do you contain an emergence of an outbreak of Hospital associated infections.

II. Write notes on:

(8 x 5 = 40)

1. Needle stick injury.
2. Vaccines used among health care workers.
3. Indicators used in moist heat sterilization.
4. Ethylene oxide sterilization.
5. Functions of Central Sterile Supplies Department.
6. Theatre swab studies for anaerobic bacteria.
7. Aseptic precautions.
8. Spill kit.

III. Short answers on:

(10 x 3 = 30)

1. Mention any three commonly used antiseptic.
2. Methods to sterilize gloves and syringes.
3. Usefulness of 1% Sodium hypochlorite.
4. What is the importance of Methicillin resistant Staphylococcus aureus?
5. Surface disinfection.
6. Surgical wound cleaning.
7. Mention any three colour coded bins used inside the OT.
8. What is the use of Bowie dick strips in sterilization.
9. Flash sterilization.
10. Cleaning of tubings and catheters.

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

[AHS 0922]

SEPTEMBER 2022

Sub. Code: 1121

(FEBRUARY 2022 & AUGUST 2022 EXAM SESSIONS)

**B.Sc. OPERATION THEATRE & ANAESTHESIA TECHNOLOGY
THIRD YEAR – (Regulations from 2010-2011, 2014-2015 & 2015-2016)**

PAPER I – STERILIZATION PROCEDURES

Q.P. Code: 801121

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Define disinfection. Classify and describe in detail about various levels of disinfection.
2. Segregation, storage and transport of Biomedical wastes generated in a health care setting.
3. Describe in detail about chemical sterilizations. Write a note on cleaning and sterilization of heat sensitive endoscopes.

II. Write notes on:

(8 x 5 = 40)

1. What is antisepsis? Write a note on routinely used antiseptics in hospitals.
2. What are HEPA filters? Describe about functions of them.
3. Role of a theatre assistant in monitoring safety of operation theatres.
4. Ozone gas sterilization.
5. What is pasteurization? Add a note on holder and flash methods.
6. Biological indicators used in heat sterilization methods.
7. Incineration.
8. Sorting and classification of equipments for cleaning purposes.

III. Short answers on:

(10 x 3 = 30)

1. Membrane filtration.
2. How do you manage a case of blood spill?
3. N 95 Facial masks.
4. Intercostal drainage.
5. Catheter associated urinary tract infections.
6. Name any three applications of Gamma radiation.
7. Management of Sharps.
8. Packing of Instruments.
9. What is biosafety?
10. Name any three aldehyde disinfectants.
