

[LJ 0816]

AUGUST 2016

Sub. Code: 1217

**B.Sc. CRITICAL CARE TECHNOLOGY**  
(New Syllabus 2014-2015)  
**SECOND YEAR**  
**PAPER II – CLINICAL MICROBIOLOGY**  
*Q.P. Code: 801217*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

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

1. Define disinfection; Write about mechanism of action, uses and disadvantages of glutaraldehyde and povidone iodine in critical care practice.
2. List the common causes of nosocomial respiratory infections. Discuss in detail the methods to prevent these infections.
3. Mode of spread, source of infection, diagnosis and prevention of malaria.

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

1. Barrier nursing methods used in the ICU.
2. Describe the mid-stream clean catch procedure for urine culture.
3. What are universal precautions?
4. Routes of transmission of disease.
5. Nosocomial wound and skin infections.
6. Role of normal flora in human health.
7. Categories of medical waste.
8. Prevention of HIV.

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

1. Name two medically important fungi.
2. Causative agent of leptospirosis and tetanus.
3. Dengue serotypes.
4. Mention three malarial parasites.
5. Name two drugs used in the first line treatment of TB.
6. Name three vaccines given to infants.
7. How are scissors, cystoscopes and bone marrow sets sterilized?
8. In which colour coded bag or containers are needles, gloves and human tissues discarded?
9. Vaccination for tetanus.
10. What is significant bacteriuria?

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**B.Sc. CRITICAL CARE TECHNOLOGY**  
(New Syllabus 2014-2015)

**SECOND YEAR**

**PAPER II – CLINICAL MICROBIOLOGY**

*Q.P. Code: 801217*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Define sterilisation. Describe the principle and the materials sterilised using the plasma steriliser. Add a note on the precautions to be undertaken while using this equipment.
2. Enumerate the sources and modes of transmission of hospital acquired infection. Write a note on prevention of hospital infection including the role of the health care worker.
3. List the causative agent, source of infection and mode of transmission of amoebiasis. Describe in detail the prevention of this disease

**II. Write notes on:**

**(8 x 5 = 40)**

1. Method of collection of blood for culture.
2. Steps of hand washing.
3. Prevention of HIV infection.
4. Classification of biomedical waste.
5. Describe the schedule for diphtheria, pertussis and tetanus vaccination to be followed for children.
6. Sources of infection.
7. List the PPE used in an ICU; Mention to what category of medical waste, used PPE belong and how they are discarded?
8. Categories of medical waste.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Define opportunistic pathogens with two common examples.
2. Define bacteraemia and septicaemia.
3. Name two viral diseases that are often spread through sexual contact.
4. Name two common causes of urinary tract infections.
5. Expand RNTCP.
6. What is dengue haemorrhagic fever?
7. How are scalpel blades, endoscopes and normal saline sterilized?
8. Define vaccine and immunization.
9. Mention two drugs used for first line treatment of tuberculosis.
10. Gradation of water quality based on presumptive coliform count of water.

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**SECOND YEAR**

**PAPER II – CLINICAL MICROBIOLOGY**

*Q.P. Code: 801217*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Define biomedical waste; what are the categories of biomedical waste? How will you segregate biomedical waste at source? Add a note on the importance of biomedical waste management.
2. List the pathogens causing viral hepatitis; Write in detail about the prevention of viral hepatitis.
3. Draw a neat diagram of a hot air oven and explain the principle. List the materials sterilized by ETO sterilization. List the advantages and disadvantages of using a hot air oven for sterilization.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Describe the procedure to collect urine sample from a patient who is in a coma?
2. How will you prevent the spread of drug resistant *E coli* in the hospital?
3. Principles of infection control in the ICU.
4. How will you control tuberculosis?
5. What are the precautions to be taken while providing care to a patient on ventilator?
6. How is septicaemia identified?
7. How is air quality assessed by active surveillance?
8. List the sources for hospital acquired infections.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Define: sterilization and disinfection.
2. Significant bacteriuria.
3. How is good quality wound care provided?
4. Mention two common modes of transmission of HCV infection.
5. Mention two diseases spread by aerosols.
6. Give one example for cocci in pairs and one for cocci in clusters.
7. How do you sterilize antibiotic solutions, glass tubes and distilled water?
8. Define live attenuated and killed vaccine.
9. Define epidemic and endemic.
10. Mention into which colour coded bag are gloves, soiled dressings and scalpel blades discarded.

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[LM 0218]

FEBRUARY 2018

Sub. Code: 1217

**B.Sc. CRITICAL CARE TECHNOLOGY**

(New Syllabus 2014-2015 & 2015-2016)

**SECOND YEAR**

**PAPER II – CLINICAL MICROBIOLOGY**

*Q.P. Code: 801217*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Healthcare associated infection (HCAI): Types of HCAI, sources of infection and prevention.
2. Indicators of sterilization.
3. Role of a health care worker in preventing Health care associated infections.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Immunity.
2. Surveillance of the hospital environment.
3. MRSA (Methicillin Resistant Staphylococcus aureus).
4. Laboratory diagnosis of Pulmonary tuberculosis.
5. Drug Resistance among Gram negative bacteria.
6. Universal precautions.
7. Sources of infection in the hospital.
8. Bacterial cell.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Louis Pasteur
2. Gram stain.
3. Gaseous sterilants.
4. Define Enteric fever.
5. Technique of hand hygiene.
6. Normal flora.
7. Routes of transmission of infection in the community.
8. Blood borne viruses.
9. Importance of appropriate specimen collection and transport.
10. Candida infections.

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**B.Sc. CRITICAL CARE TECHNOLOGY**  
(New Syllabus 2014-2015 & 2015-2016)

**SECOND YEAR**

**PAPER II – CLINICAL MICROBIOLOGY**

*Q.P. Code: 801217*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Classify disinfectants according to their level of activity. Add a note on disinfection protocols in the intensive care unit.
2. Antibiotic drug resistance: causes and consequences.
3. Classify Health care associated infections and write a note on the prevention of each.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Laboratory diagnosis of Pulmonary tuberculosis.
2. Laboratory diagnosis of Cholera.
3. Clostridium tetani.
4. Bio Medical waste management – Discuss the importance and ultimate disposal protocols.
5. Blood borne viruses and prevention.
6. Surveillance in Hospitals to prevent HCAI's.
7. Gaseous sterilants.
8. Sterilization by radiation.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Normal flora.
2. Sources of infection.
3. Gram stain.
4. Expand and define: MRSA and CRO.
5. Difference between concurrent and terminal disinfection.
6. Bacterial growth curve.
7. Anthrax: Causative agent and types, routes of transmission: causative agent, types, sources of infection and prevention.
8. Legionella : causative organism and prevention.
9. Anaerobe causing Antibiotic Associated diarrhea: causative agent, clinical features and management.
10. List the role of a HCW in preventing HCAI's.

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[LO 0219]

FEBRUARY 2019

Sub. Code: 1217

**B.Sc. CRITICAL CARE TECHNOLOGY**

(New Syllabus 2014-2015 & 2015-2016)

**SECOND YEAR**

**PAPER II – CLINICAL MICROBIOLOGY**

*Q.P. Code: 801217*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Enumerate the Viruses causing Hepatitis. Describe laboratory diagnosis of “Hepatitis-B” virus.
2. Give a detail account on the Biomedical Waste Management.
3. Define Tropical infection. Explain in detail the causative agent, mode of transmission and laboratory diagnosis of amoebiasis.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Blood Culture.
2. Laboratory Diagnosis of Leptospirosis.
3. Scrub Typhus.
4. MRSA (Methicillin Resistant *Staphylococcus Aureus*)
5. National Immunization Schedule.
6. Roles and Responsibilities of Hospital Infection Control Committee.
7. List the causative agents of Malaria. Add notes on its laboratory diagnosis.
8. Autoclave.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Window Period in HIV Infection.
2. Lab Diagnosis of Dengue.
3. Define Quality Control.
4. Define Hospital Acquired Infection.
5. Asymptomatic Bacteriuria.
6. Personal Protective Equipments.
7. Gram Staining.
8. Louis Pasteur.
9. Hand Hygiene.
10. Ventilator Associated Pneumonia.

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[LP 0819]

AUGUST 2019

Sub. Code: 1217

**B.Sc. CRITICAL CARE TECHNOLOGY**

(New Syllabus 2014-2015 & 2015-2016)

**SECOND YEAR**

**PAPER II – CLINICAL MICROBIOLOGY**

*Q.P. Code: 801217*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Define and classify sterilization. Write in detail on Autoclaves.
2. Define and classify Immunity. Write in detail about the importance of Active immunity.
3. Types of surveillance in the hospital and its role in preventing health care infections.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Indicators of sterilization.
2. Universal precautions.
3. Routes in the transmission of infection.
4. Post exposure prophylaxis of Rabies.
5. Laboratory diagnosis of Typhoid fever.
6. Cryptococcus neoformans.
7. Staphylococcus aureus.
8. Clostridium difficile.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Robert Koch.
2. Ziehl Neelsen stain.
3. Terminal and concurrent disinfection.
4. Bio-medical waste management in India.
5. Sterilization by Aldehydes.
6. Blood borne viruses.
7. Methods of Antimicrobial Susceptibility testing.
8. Bacterial spore.
9. Cholera –causative agent and laboratory diagnosis.
10. Define MDR - TB and XDR TB.

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[LQ 0220]

FEBRUARY 2020

Sub. Code: 1217

**B.Sc. CRITICAL CARE TECHNOLOGY**

(New Syllabus 2014-2015 & 2015-2016)

**SECOND YEAR**

**PAPER II – CLINICAL MICROBIOLOGY**

*Q.P. Code: 801217*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Define biomedical waste; what are the categories of biomedical waste? How will you segregate biomedical waste at source? Add a note on the importance of biomedical waste management.
2. Enumerate the causative agents for malaria. Describe the pathogenicity and laboratory diagnosis of *Plasmodium falciparum*.
3. What are the modes of transmission of HIV? Discuss laboratory diagnosis of HIV infection.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Discuss the importance of infection control in Intensive care unit.
2. Personal protective equipments.
3. Post exposure prophylaxis of rabies.
4. Antibiotic drug resistance.
5. Indicators of sterilization.
6. Laboratory diagnosis of leptospirosis.
7. National immunization schedule.
8. Autoclave.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Dengue serotypes.
2. Universal precautions.
3. Bacterial growth curve.
4. Define sepsis.
5. Define nosocomial Infection.
6. Mention the toxins produced by *clostridium tetani*.
7. Define significant bacteriuria.
8. Mention any two of differential staining methods used for methods for the demonstration of bacteria.
9. List the samples collected for pulmonary tuberculosis.
10. Define quality control.

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

[AHS 0321]

**MARCH 2021**

**Sub. Code: 1217**

**(AUGUST 2020 EXAM SESSION)**

**B.Sc. CRITICAL CARE TECHNOLOGY**

**SECOND YEAR (From 2014-2015 and 2015-2016 onwards)**

**PAPER II – CLINICAL MICROBIOLOGY**

*Q.P. Code : 801217*

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Enumerate the Viruses causing Hepatitis. Describe laboratory diagnosis of “Hepatitis-B” virus.
2. Classify the types of waste generated in the hospital and write in detail about the Disposal of waste.
3. Enumerate the causative agents for Malaria. Describe the pathogenicity and laboratory diagnosis of Plasmodium falciparum.

**II. Write notes on:**

**(8 x 5 = 40)**

1. List the steps in hand washing. Discuss its significance in the prevention of infection.
2. Post exposure prophylaxis of Rabies.
3. Role of the health care worker in the prevention of nosocomial infection.
4. National Immunization Schedule.
5. Define carrier state. Discuss its clinical significance in Enteric fever.
6. Autoclave.
7. Name the viruses transmitted through mosquitoes? Explain about Dengue virus.
8. Briefly write about the Quality control in Microbiology.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Define Sepsis.
2. Define Anti microbial Susceptibility Testing (AST).
3. List three opportunistic infections.
4. List three zoonotic infections.
5. List three functions of Hospital Infection Control Committee.
6. Dengue serotypes.
7. List three Personal Protective Equipments used in ICU.
8. Mention two diseases spread by aerosols.
9. Louis Pasteur.
10. Gram Staining.

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