

[LB 0212]

AUGUST 2012

Sub. Code: 1212

**B.Sc. CRITICAL CARE TECHNOLOGY
SECOND YEAR
PAPER II – CLINICAL MICROBIOLOGY
Q.P. Code : 801212**

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. Explain in detail about the different types of Nosocomial infections and the methods involved to prevent them. | 7 | 20 | 10 |
| 2. Classify the types of waste generated in the hospital and write in detail about the Disposal of waste. | 7 | 20 | 10 |
| 3. Write about the pathogenesis and Laboratory diagnosis of Hepatitis B Virus. | 7 | 20 | 10 |

II. Write Notes on:

- | | | | |
|--|---|----|---|
| 1. Why is it important to control infection in the Intensive Care Units? | 4 | 10 | 5 |
| 2. Write about the agents causing Respiratory tract infections. | 4 | 10 | 5 |
| 3. What are the precautions needed in handling Bio hazardous materials? | 4 | 10 | 5 |
| 4. What is the role of Host in the Spread of infections? | 4 | 10 | 5 |
| 5. Write briefly about the concepts of Disinfection | 4 | 10 | 5 |
| 6. How are the surgical instruments cleaned? | 4 | 10 | 5 |
| 7. Write short note on Hepatitis A infection. | 4 | 10 | 5 |
| 8. Briefly write about the Quality control in Microbiology. | 4 | 10 | 5 |

III. Short Answers on:

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|--|---|---|---|
| 1. What is AIDS? | 2 | 4 | 3 |
| 2. How will you dispose needles and syringes? | 2 | 4 | 3 |
| 3. What is the mode of transmission of Hepatitis C virus? | 2 | 4 | 3 |
| 4. Mention the symptoms of Malaria. | 2 | 4 | 3 |
| 5. Name the parasite which causes Amoebiasis. How to prevent Amoebiasis? | 2 | 4 | 3 |
| 6. What is the role of health care workers in preventing transmission of infections? | 2 | 4 | 3 |
| 7. Write a few words about Sepsis. | 2 | 4 | 3 |
| 8. Add a note on Tetanus Toxoid. | 2 | 4 | 3 |
| 9. Write about mode of transmission of HIV. | 2 | 4 | 3 |
| 10. What is the difference between Disinfection and Sterilization? | 2 | 4 | 3 |

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Answer All Questions

I. Elaborate on :**(3X10=30)**

1. Describe the morphological features of HIV with neat labeled diagram, mention the routes of transmission and describe the laboratory diagnostic methods for detecting HIV infection.
2. What is hospital waste? What is the chief objective of hospital waste management? Highlight the health hazards associated with improper waste management.
3. What are hospital infections? What are the sources of hospital infections? How is hospital infections transmitted? Add a note on common types of hospital infections.

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

1. Define sterilization. Explain in detail about “Hot air sterilization” with neat labeled diagram.
2. Name the commonly isolated micro-organisms in ICU. How do you diagnose it? How do you sterile ICU?
3. What is “infection” and how it is different from “disease”? Name and define various types of infections?
4. Name the species of “Plasmodium” and explain the laboratory diagnosis of “Plasmodium falciparum”.
5. Mention the morphological characteristics of Leptospira. Describe the pathogen city of Leptospira including the clinical features.
6. Name the important human pathogenic species of Rickettsia. Mention the diseases caused by Rickettsia and explain about Weil-Felix test.
7. Name the parasites which will cause amoebiasis? Explain about intestinal amoebiasis.
8. Name the viruses transmitted through mosquitoes? Explain about “Dengue virus”.

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

1. What is the role of “Microbiologist” in case of “Hospital acquired infections”?
2. Define “Disinfection” Name the disinfectants.
3. Types of “Filters”
4. Name and write the uses of color bins which will be used in “Hospital waste management”.
5. Draw the neat labeled diagram of “Hepatitis virus”.
6. What are the biological and physical controls in case of sterilization?
7. Define “Bacteraemia and Septicemia”.
8. Mention the toxins produced by Clostridium tetani
9. What are the preventive measures can be taken in case of mosquito borne infections?
10. How do you control “Hospital acquired infections”?

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Answer All Questions

I. Elaborate on :

(3X10=30)

1. Define “Sterilization”. Describe in detail the various physical agents/methods of sterilization and add note on controls.
2. Enumerate the hepatitis-causing viruses. Mention the pathogenicity, clinical features and laboratory diagnosis of “Hepatitis-B” virus.
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. What are the sources of hospital infections? Mention the pre-disposing factors and enumerate the micro-organisms causing hospital infections.
2. What prophylactic measures should be adopted for prevention of Clostridium tetani infection?
3. Describe the pathogenicity of Leptospira, including the clinical features of the disease and add a note on laboratory diagnosis.
4. Mention the name of the diseases caused by Rickettsia and describe the various laboratory methods of diagnosing Rickettsia.
5. Mention the vector and spread of Dengue virus, briefly discuss about clinical features of Dengue and add a note on preventive measures.
6. What is hospital waste? How would you classify hospital waste for management purposes?
7. Importance of infection in an ICU, Explain about the precautions taken by the medical staff.
8. Suggest methods for prevention and control of hospital-acquired infections.

III. Short Answers on:

(10 x 3 = 30)

1. Draw neat labeled diagram of HIV
2. Differences between bacterial dysentery and amoebic dysentery.
3. Differences between Plasmodium falciparum and Plasmodium vivax.
4. Draw neat labeled diagram of trophozoite of Entamoeba histolytica.
5. Management of Segregated waste according to Biomedical waste rules (1998).
6. Cold sterilization.
7. Define “Definitive host and Intermediate host”.
8. Types of human carriers.
9. Infection control policy
10. Mention the guidelines for use of disinfectants.

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Answer All Questions

I. Elaborate on: (3X10=30)

1. Explain in detail about Hospital Waste management.
2. Describe in detail about types and prevention of Nosocomial infections.
3. Give a detail account on Hepatitis infections.

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

1. Give a brief note on Surveillance of infectious diseases.
2. Explain Sterilization methods.
3. Describe the Concept of Health and Disease.
4. Explain the pathogenesis and clinical features of Tetanus infections.
5. Discuss the importance of infection control in Intensive care unit.
6. Mention the Role of health care workers in prevention of disease transmission.
7. Explain about the transmission methods and prevention of Dengue virus.
8. Give an account on Amoebiasis sepsis.

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

1. Define Gaseous method of sterilization.
2. Give a note on Tetanus toxin.
3. Types of Biomedical waste.
4. Define a Disinfectant with examples.
5. Give a note on Hepatitis A viruses.
6. Any two functions of infection control committee.
7. Mention about the transmission of HIV.
8. Give any two examples of mosquito borne diseases.
9. Define Tropical infections.
10. Define Bacteremia and septicemia.

[LH 0815]

AUGUST 2015

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Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Define nosocomial infection. Discuss the role of the health care worker in the prevention of nosocomial infection.
2. Define disinfection. Classify and explain the use of chemical disinfectants in the hospital.
3. Give a detail account on the biomedical waste management.

II. Write notes on:

(8 x 5 = 40)

1. How is blood collected and transported for culture?
2. Define carrier state. Discuss its clinical significance.
3. Give a brief account on the laboratory diagnosis Hepatitis B infection.
4. Discuss briefly on the surveillance of water in the hospital. Add note on safe water supply.
5. Name the causative agent of Tuberculosis. Discuss why it is endemic in our country and list the preventive measures undertaken.
6. Discuss the role of Hospital Infection Control Committee (HICC) in ICU.
7. Explain briefly the pathogenesis, transmission and prevention of Leptospirosis.
8. List the causative agents of Malaria. Add notes on its clinical features and laboratory diagnosis.

III. Short answers on:

(10 x 3 = 30)

1. Postulations of Robert Koch.
2. What are vaccines?
3. Define a) Pandemic disease b) Epidemic disease
4. Define opportunistic infection. Name two fungal agents causing it.
5. Define a) Quality control b) Quality assurance.
6. Define anti microbial susceptibility testing (AST). Mention its significance.
7. Define significant bacteriuria.
8. Name the causative agent of a) Scrub typhus b) Amoebiasis.
9. What is differential staining? Mention any two of differential staining methods used for methods for the demonstration of bacteria.
10. Incubation period.
