

**D.M. – INFECTIOUS DISEASES**

**Paper I – PRINCIPLES OF INFECTION CONTROL, ANTIBIOTICS, ANTIVIRALS AND ANTIFUNGALS AND ITS PHARMACOKINETICS – PHARMACODYNAMICS, ANTIMICROBIAL RESISTANCE AND ANTIBIOTIC STEWARDSHIP**

*Q.P. Code: 161491*

**Time: Three Hours**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 15 = 30)**

1. Discuss in detail various strategies to prevent transmission of Mycobacterium tuberculosis within health care settings. Compare the advantages and disadvantages of the various special ventilation systems to reduce M. tuberculosis transmission.
2. Describe the rationale, benefits, drawbacks and indications for prolonged infusion of beta-lactam antibiotics.

**II. Write notes on:**

**(10 x 7 = 70)**

1. Ceftazidime – Avibactam.
2. Loading doses for colistin.
3. Alcohol-based hand disinfection.
4. Liposomal Amphotericin B.
5. Chlorhexidine bathing for prevention of hospital acquired infections.
6. Metallo – beta – lactamases.
7. Post-exposure prophylaxis for diphtheria.
8. VAP prevention bundle.
9. Brincidofovir.
10. Boosted protease inhibitors.

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1. A 33-year-old male recently diagnosed with acute myeloid leukemia (AML) is undergoing the second cycle of chemotherapy. Four days after the chemotherapy he is admitted with hectic fevers and chills with no other localizing symptoms. He had a left-sided subclavian line which was inserted 4 weeks earlier. Paired blood cultures from the line and peripheral line are growing gram-negative bacilli.

What is the Central Line Associated Blood Stream Infection (CLABSI)?

Discuss the risk factors for the same and the strategies for its prevention

Define and discuss health care associated infections.

2. What is Antimicrobial Stewardship? What are the various components of Antimicrobial stewardship in a hospital setting and what strategies would you employ if you were asked to set up a stewardship program for a large 1500 bed tertiary hospital.

**II. Write notes on:****(10 x 7 = 70)**

1. Carbapenemase producing gram-negative bacteria.
2. Remdesivir.
3. Infection control in a bone marrow transplant unit.
4. Strategies to prevent VAP.
5. Post exposure prophylaxis for hepatitis B.
6. Biomedical waste disposal in a hospital setting.
7. Liposomal amphotericin – indications for use and advantages over other forms of amphotericin.
8. Risk factors and prevention strategies for *C.difficile* associated diarrhoea.
9. Approach to an individual with MRSA colonization.
10. Pre-surgical antimicrobial prophylaxis.