



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

**SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE (MEDICAL LABORATORY)**

HML 308: CLINICAL BACTERIOLOGY II

DATE: THURSDAY, 28TH MARCH 2012

TIME: 2.00P.M – 4.00P.M

INSTRUCTIONS: Answer ALL the Question (5 marks each)

1. Outline the interventions in preventing nosocomial infections associated with indwelling urethral catheter
2. Briefly describe the epidemiology of nosocomial bacteraemia
3. Explain the effects of cations, pH and Thymidine on the results of antimicrobial susceptibility test

SECTION B: Answer Only One Question

4. Describe hospital- acquired infections in Bone Marrow Recipients.
5. Discuss the nosocomial infections associated with renal transplant patients.

SECTION C: Answer All the Questions by Circling on the Correct Answer (1/2 mark each)

1. The most common cause of nosocomial infections in the second phase of post-bone marrow transplant is:
 - a) Cytomegalovirus
 - b) Varicella-Zoster Virus
 - c) Herpes Simplex Virus
 - d) Coagulase-negative *Staphylococci*
2. Factor x is not required for growth of:
 - a) *Haemophilus influenza*
 - b) *Haemophilus influenza* biogroup aegyptus
 - c) Both a and b
 - d) *Haemophilus parainfluenza*
3. Post-transplant opportunistic fungal infections are likely to occur in:
 - a) < 1 month
 - b) < 2 months
 - c) > 3 months
 - d) < 3 months

4. The risk of *Clostridium defficile* infection among cancer patient is associated with:
 - a) Increased production of toxin A and B
 - b) Resistance to fluroquinolones
 - c) Antineoplastic drug treatment
 - d) All of the above
5. Kovac's reagent is applicable in:
 - a) Indole test
 - b) Citrate test
 - c) Urease test
 - d) Oxidase test
6. The incidence of nosocomial infections among bone marrow transplant patients depends on:
 - a) Graft protocol
 - b) drugs
 - c) immunity
 - d) All of the above are correct
7. Dilution method of susceptibility testing:
 - a) uses blotting papers discs impregnated with antimicrobial agent
 - b) allows diffusion of antimicrobial agent from disc into the media
 - c) measures the minimum bactericidal concentration
 - d) None of the above
8. Which one of the following is a traditional approaches to the control of nosocomial infections?
 - a) Eradication of infecting microorganism
 - b) Control of person – to – person transmission
 - c) Alteration of host susceptibility
 - d) All of the above are correct
9. Early post-bone marrow transplant infections occurs:
 - a) < 1 month
 - b) < 2 months
 - c) > 3 months
 - d) < 3 months
10. The predominant microorganisms causing UTI in spinal cord injuries include the following, except?
 - a) *Escherichia coli*
 - b) *Pseudomonas spp.*
 - c) *Enterococcus spp.*
 - d) *Candida spp.*

11. Which one of the following is not a β - lactum antibiotic?
- a) Ampicillin
 - b) Amikacin
 - c) Cloxacillin
 - d) Ticarcillin
12. Nosocomial infections in burn patients are associated with the following microorganisms, except?
- a) *Enterococci*
 - b) *Candida* spp.
 - c) *Aspergillus* spp.
 - d) Varicella – Zoster Virus
13. The common pathogens in cancer patients includes the following, except?
- a) Methiciline - resistant *Staphylococcus aureus*
 - b) *Clostridium difficile*
 - c) Cytomegalovirus
 - d) Vancomycin - resistant *enterococci*
14. The common condition associated with burn patients is:
- a) Pneumonia
 - b) Wound infection
 - c) UTI
 - d) All of the above are correct
15. Which one of the following is a control organism in antimicrobial susceptibility testing:
- a) *Eschericha coli* ATCC 25992
 - b) *Eschericha coli* ATCC 22922
 - c) *Eschericha coli* ATCC 11918
 - d) None of the above
16. Maximum level of immune-suppression in renal transplant patients occurs in the:
- a) Early phase
 - b) Second phase
 - c) Both a and b
 - d) Late phase
17. Modified Kirby-Bauer susceptibility testing technique is suitable for:
- a) *Haemophilus influenza*
 - b) *Klebsiella oxytoca*
 - c) *Proteus mirabilis*
 - d) *Escherichia colo*
18. The major cause of morbidity and mortality in the period between 1 to 6 months, post-renal transplant is:
- a) Cytomegalovirus
 - b) Herpes zoster virus

- c) *Legionella*
 - d) *Mycobacterium tuberculosis*
19. Which one of the following conditions is not associated with Cytomegalovirus morbidity among renal transplant patients?
- a) Diarrhea
 - b) Bacterial sepsis
 - c) Allograft dysfunction
 - d) glomerulonephritis
20. Urease enzyme activity is valuable in diagnosis of:
- a) *Shigella*
 - b) *Escherichia coli*
 - c) *Proteus*
 - d) *Salmonella*
21. Which one of the following is the most common nosocomial infection:
- a) Pneumonia
 - b) UTI
 - c) Surgical site infections
 - d) Bacteraemia
22. Protein synthesis is inhibited by:
- a) Penicillin
 - b) Macrolides
 - c) Quinolones
 - d) Trimethoprim
23. In the developed countries, the most common cause of adult nosocomial gastroenteritis is:
- a) Enteropathogenic *Escherichia coli*
 - b) Enterohaemorrhagic *Escherichia coli*
 - c) *Campylobacter jejuni*
 - d) *Clostridium defficile*
24. Which one of the following microorganisms is not a common cause of pneumonia in renal transplant patients?
- a) *Acinetobacter*
 - b) *Legionella*
 - c) *Pseudomonas aeruginosa*
 - d) *Klebsiella*
25. Grey mucoid colonies, surrounded by small zones of β - haemolysis on blood agar are characteristic of:
- a) *Streptococcus agalactae*
 - b) *Staphylococcus aureus*
 - c) *Streptococcus pyogenes*

- d) *Streptococcus pneumonia*
26. Antimicrobial resistance develops as result of:
- a) host diversity
 - b) toxin production
 - c) mutation
 - d) increased drug uptake
27. The high nosocomial morbidity and mortality in post- bone marrow transplant patient is attributed to all of the following, except?
- a) Immunoglobulin suppression
 - b) Granulocytopenia
 - c) Lymphocytopenia
 - d) Thrombocytopenia
28. Lactose fermentation is characteristic of:
- a) *Hafnia*
 - b) *Enterobacter*
 - c) *Salmonella*
 - d) *Proteus*
29. The most common nosocomial infection in children is:
- a) UTI
 - b) Pneumonia
 - c) Gastroenteritis
 - d) Bacteraemia
30. In post-bone marrow transplant, approximately 50% of interstitial pneumonias are associated with:
- a) Cytomegalovirus
 - b) *Streptococcus pneumonia*
 - c) *Pneumocystis carinii*
 - d) *Klebsiella pneumoniae*