03/24

The West Bengal University of Health Sciences

MBBS 2nd Professional Examination (New Regulation) July-August 2024

Subject : Microbiology **Full Marks : 100**
Paper : II **Time : 3 hours**

*Attempt **all** questions. The figures in the margin indicate full marks.*

1. a) A 30 year old man came to OPD with a painless, hard indurated ulcer over external genitalia along with non-tender, firm, enlarged inguinal lymph node. The patient gave a history of unprotected sexual exposure 3 weeks before. 2+2+7+2+2

   i) Write your provisional diagnosis.
   ii) What is the causative agent?
   iii) How the disease can be confirmed in laboratory?
   iv) What are the drugs that can be used for treatment?
   v) How response to treatment can be assessed?

   b) A 50 year old person was admitted 6 days after crush injury to his left leg following a road traffic accident. On examination, the wound which was bandaged with soiled gauze appeared to be heavily contaminated with soil and local muscles appear to have been crushed. At the site on examination tenderness, edema was found and crepitus was felt. 2+6+7

   i) What is the clinical condition and what are the etiological agents?
   ii) Briefly discuss the pathogenesis of the case.
   iii) How will you proceed for laboratory diagnosis?

2. a) Write an account of disease stages and associated 'Opportunistic Infection' and malignancies in a case of transfusion associated retroviral infection. 10
   b) Write on rapid diagnostic tests of vector borne blood stream infections. 10
   c) Enumerate the causative agents of neonatal meningitis. Discuss the lab diagnosis of neonatal meningitis. 3+7

3. Write short notes on following: 2 x
   a) NACO strategies for HIV testing.
   b)Visceral Larva Migrans.

4. Explain the following statements: 5 x 4

   a) Malaria can be transmitted by mosquitoes.
   b) SDA is a selective media for fungus.
   c) Stool examination helps in the diagnosis of Ascariasis.
   d) Both active and passive immunization are often required against Hepatitis B.
   e) Tetanus results in spastic muscle contraction.

5. Choose the correct option for each of the following: 10 x 1

a) Epstein-Barr virus is associated with the following malignancies except:
   i) Nasopharyngeal carcinoma.
   ii) Burkitt's lymphoma.
   iii) Carcinoma of cervix.
   iv) Non Hodgkin lymphoma.

b) Dienes' stain is used to detect:
   i) Bacillus anthracis.
   ii) Mycoplasma.
   iii) Corynebacterium.
   iv) Mycobacterium.

c) Most common manifestation of Toxoplasma gondii in immune competent adult is:
   i) Lymphadenopathy
   ii) Encephalitis
   iii) Chorioretinitis
   iv) Myocarditis

d) Commonest cause of persistent diarrhoea in AIDS patients is:
   i) Giardia lamblia
   ii) Entamoeba histolytica
   iii) Neobalantidium coli
   iv) Cryptosporidium parvum

e) Which statement about D. medinensis is wrong:
   i) In India, after eradication, the parasite shows fresh cases indicating reemergence.
   ii) It infects man by penetrating skin.
   iii) Adult female migrate from intestine to skin.
   iv) It cause blister in skin at dry areas.

f) Each of the following organism is an important cause of urinary tract infections except:
   i) Klebsiella pneumoniae ii) Escherichia coli
   iii) Bacteroides fragilis iv) Proteus mirabilis

g) Botryomycosis is caused by:
   i) Dermatophytes ii) Staphylococcus aureus
   iii) Aspergillus nidulans iv) Bipolaris sp

h) All of the following vaccines are included in National Immunization Schedule at birth except:
   i) BCG ii) DPT
   iii) OPV iv) Hep B vaccine

i) Which of the following statement is false regarding influenza virus?
   i) It belongs to orthomyxoviridae family
   ii) Envelope has two peplomers- haemagglutinin and neuraminidase
   iii) Antigenic drift is responsible for pandemic
   iv) Pigs act as mixing vessels for mutation

j) A 3 days neonate born to a multigravida with history of Pre mature rupture of membrane(PROM) of more than 12 hr duration presented with lethargy, poor feeding and recurrent apnoea. What is the most likely organism causing infection in this neonate?
   i) Staphylococcus aureus ii) Streptococcus pneumoniae
   iii) Escherichia coli iv) Neisseria meningitidis