Seat No: ____________ Enrollment No.: ______

PARUL UNIVERSITY
FACULTY OF MEDICINE
M.B.B.S January 2022 Examination
(New Course)

Year: 2
Subject Code: 19100284
Subject Name: Microbiology Paper-II

Date: 03/01/2022
Time: 10:00am to 1:00pm
Total Marks: 100

Section-A (35 Marks)

Q:1 Case based questions (Any 2 Out of 3) 2X10 **(20)**

Case 1: 32 year old female presented with fever with chills and rigors on alternate day for last one week. Her blood tests revealed Hemoglobin of 12.2 Gms/dl, normal WBC count low platelet count and in the thick blood smear ring forms and crescent shape gametocyte forms of the parasites were seen.

1. What is the most probable cause of the fever? Write life cycle of the causative agent?
2. Write in detail the lab diagnosis of this disease.
3. Enlist complications that can lead to if patient is not treated.

Case 2: A 68 year old diabetic male with benign prostatic hyperplasia with h/o Repeated UTI and catheterization presented with septic shock, (Hypotention with cold and clammy body). His blood culture yielded Lactose non fermenting colonies with greenish pigment and oxidase test positive.

1. What could be the most probable agent of sepsis?
2. Write the pathophysiology and different agent causing sepsis.
3. Write the lab diagnosis of sepsis.

Case 3: 38 year old male truck driver who had a history of sexually transmitted disease in the past presented with refractory diarrhoea and weight loss. His stool examination with modified acid fast staining revealed oocysts of measuring 4-6 microns in size. The lab reports also revealed low CD4 counts. Based on this answer the following

1. What is the most probable underlying disease condition of patient responsible for low CD4 count? What laboratory test could be done to diagnose this infection?
2. Enlist various opportunistic pathogens.
3. Write laboratory diagnosis of this disease in detail.

Q:2 Write Short notes (Any 3 Out of 4) 3X5 **(15)**

1. Gas Gangrene
2. Acute Bacterial Endocarditis
3. Enlist causative agents and laboratory diagnosis of food poisoning.
4. Neurocysticercosis

Section-B (35 Marks)

Q:3 Case based questions (Any 2 Out of 3) 2X10 (20)

Case 1: 56 years old diabetic male presented to the clinic with c/o fever, severe headache, neck rigidity and delirium. His CSF analysis indicated protein of 169 mg/dl, Glucose 44 mg/dl. CSF cell count was 628 with 98% lymphocytes.

1. Based on the report what is the most probable cause of meningitis in this patient
2. Write laboratory diagnosis of suspected meningitis in this patient with molecular tests.
3. How will you detect drug resistance of these bacteria?

Case 2: 32 year old female presented to the clinic with C/o mild fever, passing of stool with blood and mucus for more than 10 times in 24 hours. The stool microscopy revealed plenty of Pus cells with macrophages, RBCs and Mucus threads.

1. Write the most probable etiologic agent?
2. Name all the species of the bacteria causing bacillary dysentery.
3. Write about differences between Bacillary dysentery and Amoebic dysentery.

Case 3: A boy of 5 year age was brought to the clinic with complain of low grade fever and rashes over the trunk with loss of appetite since 10 days. On examination he was having bradyçardia, soft palpable spleen. Parents gave history of boy eating milk shake from a street vendor. His laboratory reports showed WBC 3925, lymphocytes 48% and O titre 1:160, H titre 1:320.

1. What is the most probable diagnosis?
2. What is the pathogenesis and complications of this illness?
3. What is the Laboratory diagnosis of this illness?

Q:4 Write Short notes (Any 3 Out of 4) 3X5 (15)

1. Enlist viruses causing haemorrhagic fever and write laboratory diagnosis of Dengue Fever.
2. Hydatid Cyst
3. Serological markers of Hepatitis B infection
4. Laboratory diagnosis of Kala Azar (Visceral Leishmaniasis)

Section-C (30 Marks)

Q:5 Write in brief Short answered questions (Any 10 Out of 11) 10X2 (20)

1. Name the free living amoeba that can cause meningitis..
2. Acute obstructive jaundice and Pancreatitis can be a complication of which Nematode infection?
3. Acute epiglottitis is caused by which bacterial infection?.
4. Causative agents of fungal meningitis in HIV positive patient.
5. Write two names of dimorphic fungi.
6. Name blood transfusion transmitted pathogens.
7. Write names of Intra Uterine infections.
8. Predisposing factors for development of Mucomycosis in Post Covid 19 patients.
9. Name two Inclusion Bodies.
10. Mechanism of Diphtheria toxin.
11. Organisms causing Otitis Externa.

Seat No: ____________ Enrollment No.: _____

Subject Code: 19100284 **Time: 10:00am to 1:00pm**

Section-C (30 Marks)

Q:6 Multiple Choice Questions (10 - All Compulsory) 10X1 **(10)**

1. A 30-year-old pregnant lady with history of eating cheese made from unpasteurized milk comes with high grade fever and signs suggestive of meningitis. Gram staining of CSF sediment revealed many short gram-positive bacilli. Most probable organism is
   a. Streptococcus pneumoniae
   b. Listeria monocytogenes
   c. H. influenzae
   d. Staph aureus
2. Patechial lesions are seen in sepsis due to
   a. Pneumococci
   b. Pseudomonas
   c. N. meningitidis
   d. Yersinia
3. Black Eschar is seen on skin in infection with
   a. Anthrax bacilli
   b. Bacillus cereus
   c. Bacillus subtilis
   d. Bacillus atrophaeus
4. The causative agent of Kaposis's sarcoma is
   a. Human Herpes virus 2
   b. Human Herpes virus 4
   c. Human Herpes virus 6
   d. Human Herpes virus 8
5. Causative agent in most of Burkitt's lymhoma is
   a. Human Papilloma Virus (HPV)
   b. Herpes Simplex Virus
   c. Epstein Barr virus
   d. Human Immunodeficiency Virus
6. Vector of African Sleeping Sickness is
   a. Reduviid bug
   b. Tsetse fly
   c. Sand fly
   d. Anopheles mosquito
7. Which Hepatitis virus is associated with highest mortality in pregnancy?
   a. Hepatitis A
   b. Hepatitis B
   c. Hepatitis C
   d. Hepatitis E
8. Second wave of Covid 19 was followed with complications of which another serious fungal infection?
   a. Candidiasis
   b. Cryptococosis
   c. Histoplasmosis
   d. Mucormycosis
9. Chaga's disease is also known as
   a. African sleeping sickness
   b. American Sleeping sickness
   c. Kala Azar
   d. Cuteneous leishmania
10. The organisms which share antigens with Proteus bacterial OX and K antigens are
    a. Mycoplasma
    b. Chlamydia
    c. Legionella
    d. Rickettesia