RAN-2106000102030102

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S. Y. M.B.B.S. Examination March - 2023

Microbiology : Paper - II

Time: 3 Hours] **[Total Marks: 100**

સૂચના : / Instructions

(1) નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of ☛ signs on your answer book

Name of the Examination:
☛ **S. Y. M.B.B.S.**

Name of the Subject :
☛ **Microbiology : Paper - II**

Subject Code No.: **2106000102030102**

Seat No.:

Student's Signature

(2) Draw a label diagram wherever required with blue pen/pencil only.
(3) Short notes 100-15 0 words.
(4) Write heading of each question properly.

Section - 2A

(Skin and soft tissue infection, Musculoskeletal and respiratory system)

Que. 1 A 35 year old female from a village of Bihar came to the hospital with history of fever on and off for the past one year and recently developed unilateral swelling of the left lower limb. Her blood sample was sent for peripheral blood smear examination which revealed worm like structures, 240 um in length with pointed tail tip. **(12 marks)**

a. Name the disease and its etiological agent.

b. Describe the life cycle, pathogenesis and laboratory diagnosis of this condition.

c. Explain prevention and treatment of this clinical condition.

Que. 2 **Write notes. (any four)** **(4 × 7 = 28 marks)**

a. Etipathogensis and laboratory Diagnosis of Madura foot

b. Etio-pathogenesis, laboratory diagnosis and complication in a man with necrotic limb wound that crepitates following a road traffic accident.

c. Fever with rash in a child: four causative organisms and lpathogenesis, aboratory diagnosis and prevention of any one.

d. Hospital acquired Infections: types, risk factors and preventive measures.

e. COVID 19 : Laboratory Diagnosis and Vaccines

Que. 3 Multiple Choice Questions. (10 Marks)

1. Which of the following is correct about lepromatous leprosy:
   a. Multibacillary b. Langerhans cells are found
   c. CMI is normal d. Positive lepromin test

2. Which is the most preferred antimicrobial for the treatment of methicillin-resistant S. aureus (MRSA)?
   a. Dicloxacillin b. Cephalexin
   c. Cefazolin d. Vancomycin

3. Which of the following toxin mediates Scalded skin syndrome :
   a. Hemolysin b. Coagulase
   c. Enterotoxin d. Epidermolytic toxin

4. Serotyping of Streptococcus pyogenes is based on which of the following protein:
   a. M protein b. T protein
   c. R protein d. Carbohydrate antigen

5. CAMP test is useful in identification of:
   a. S. pyogenes b. S. agalactiae
   c. Viridans streptococci d. S. pneumoniae

6. Gram-stain morphology of Bacillus anthraces is:
   a. Tennis racket appearance b. Drum stick appearance
   c. Bamboo stick appearance d. Spectacle glass appearance

7. Which viral infection is responsible for Subacute Sclerosing Pan Encephalitis (SSPE):
   a. Mumps b. Measles
   c. Rubella d. Influenza

8. Which of the following is a vector for leishmaniasis:
   a. Sandfly
   b. Reduviid bug
   c. Tsetse fly
   d. Anopheles mosquito

9. Which of the following fungus does not infect nail:
   a. Trichophyton
   b. Microsporum
   c. Epidermophyton
   d. Candida albicans

10. Rhinosporidiosis is characterized by all of the following **EXCEPT-**
   a. It is caused by a fungus
   b. The fungus is usually found in dirty waters
   c. It manifests as polyps that bleed easily.
   d. It can be cultured easily in laboratory.

Section - 2B
(CNS, Genitourinary, HAI, Miscellaneous)

Que. 1 A 25 yr. old man presented with painless ulcer with hard base on penis. He had a history of sex with multiple partners. On examination, inguinal lymph nodes were enlarged, discrete, non-tender and rubbery. The blood specimen was collected and sent to the laboratory for serological test. **(12 marks)**

   a. What is the clinical diagnosis and possible causative agent? Justify.
   b. Explain the pathogenesis and laboratory diagnosis of this condition.
   c. Enlist three possible etiological agents in case the man had multiple painful genital ulcers.

Que. 2 **Write notes. (any four)** **(4 × 7 = 28 marks)**

   a. A 30 years of Male with history of HIV/AIDs presented to casualty with high grade fever, Headache and seizures. CSF microscopy revealed budding yeast cells surrounded by a halo. Identify the etiological agent. Explain pathogensis and laboratory diagnosis of the condition.
   b. Encephalitis: four causative agents and pathogenesis with laboratory diagnosis of anyone.
   c. Antimicrobial stewardship program: concept and different strategies used in the program
   d. Non-tuberculosis Mycobacterium: classification and significance as human pathogen
   e. Consent: Definition, types and its importance in autonomy is autonomy?

Que. 3 Multiple Choice Questions. (10 Marks)

1. Which of the following is the causative agent of chancroid?
   a. Haemophilusducreyi b. Klebsiellagranulomatis
   c. Mycoplasma hominis d. Candida albicans

2. Causative agents of non gonococcal urethritis may be:
   a. Chlamydia trachomatis b. Ureaplasmaurealyticum
   c. Mycoplasma genitalium d. All of the above

3. Which of the following fungi are associated with zygomycosis?
   a. Mucor b. Rhizopus
   c. Absidia d. All of the above

4. Which of the following pigment is diagnostic of Pseudomonas aeruginosa?
   a. Pyocyanin b. Pyorubin
   c. Pyomelanin d. Fluorescin

5. What is significant bacteriuria?
   a. Bacterial count $>10^5$ per mL
   b. Bacterial count between 10^4 to 10^5 per mL
   c. Bacterial count $<10^4$ per ml
   d. None of the above

6. Which of the following depict decreasing order of risk of transmission following occupational exposure:
   a. HIV>HBV>HCV b. HBV>HIV>HCV
   c. HBV>HCV>HIV d. HCV>HBV>HIV

7. Which of the following microbe is **NOT** used as indicator organism of fecal contamination of water:
   a. Fecal E. coli b. Fecal streptococci
   b. Pseudomonas d. Vibrio cholerae

8. The most effective way of preventing tetanus is:
   a. Hyperbaric oxygen b. Antibiotics
   c. Tetanus toxoid d. Surgical debridement and toilet

9. Neonatal meningitis acquired through colonized/infected birth canal is due to:

a. S. pyogenes
b. Viridans streptococci
c. S. agalactiae
d. S. pneumoniae

10. Humans acquire cysticercus cellulosae infection by all of the following mechanisms, **EXCEPT:**

a. Ingestion of contaminated vegetables
b. Reverse peristalsis
c. Autoinfection
d. Ingestion of contaminated pigs meat