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# MBBS 2nd PROFESSIONAL EXAMINATION, 2022

### MICROBIOLOGY

#### Paper I

Time Allowed: Three Hours

Maximum Marks- 100

Note: Attempt all questions in serial order. Answer Section-A and Section-B in separate answer books. All parts of a question should be answered together. Illustrate your answer with suitable diagram where required. Figures in parenthesis indicate marks allotted to a question.

#### Section-A

- Enumerate the various methods of horizontal gene transfer. Discuss in detail (20)Q1. about mechanism of conjugation. (4x5)
- Write briefly on: Q2.

- a) Classical Complement pathway
- b) Disposal of microbiology laboratory waste
- c) Autoclave
- d) Prozone phenomenon

(10x1)

- Multiple Choice Questions: Q3.
  - Polymerase chain reaction (PCR) was discovered by:
    - (a) Kary B Mullis
      - (b) Goodpasture
      - (c) Robert Koch
      - (d) Edward Jenner
  - 2. What is optimal temperature for growth of mesophilic bacteria?
    - (a) Below 20°C
    - (b) 25-40°C
    - (c) 55-80°C
    - (d) None of the above
  - 3. Loeffler'S serum slope is an example of:
    - (a) Differential medium
    - (b) Enriched medium
    - (c) Selective medium
    - (d) None of the above
  - 4. Which of the following are true for bacterial plasmid EXCEPT
    - (a) They are extrachromosomal
    - (b) They cannot replicate independently
    - (c) They are not essential for bacterial life
  - (d) They usually carry important genetic information 5. All of the following are heterophile agglutination tests Except:
    - (a) Weil Felix reaction
    - (b) Paul Bunnel test
    - (c) Cold agglutination test
    - (d) Widal test
  - 6. All of the following immunoglobulins are heat stable Except:
    - (a) IgM
    - (b) IgG
    - (c) IgE
    - (d) IgA

- (b) Vibrio cholera
- (c) Pseudomonas
- (d) Campylobacter
- 8. UV rays are used for disinfection of all the following except:
  - (a) Operation theaters
  - (b) Laminar flow hoods
  - (c) Water treatment
  - (d) Disposable plastic syringes
- 9. All of the following are TRUE about exotoxins Except:
  - (a) They are heat labile proteins
  - (b) They are poorly antigenic
  - (c) Neutralised by specific antibodies
  - (d) They are secreted both by gram-positive and negative bacteria
- 10. Southern blotting is used for detection of which of the following?
  - (a) DNA
  - (b) RNA
  - (c) Proteins
  - (d) None

#### Section-B

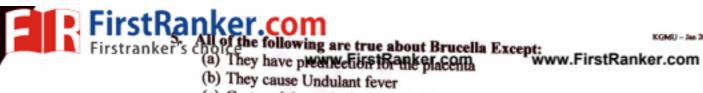
- Write pathogenesis, diagnosis and management of typhoid fever. Q1.
- (20)

- Q2. Write short notes on:
  - (a) Toxic shock syndrome 2

x6)

(10x1)

- (b) Nongonococcal urethritis-
- (c) Non-typhoidal Salmonella
- (d) Bacillary dysentery Q3. Multiple Choice Questions:
  - - 1. All of the following are toxin-mediated Staphylococcus aureus diseases Except:
      - (a) Osteomyelitis
      - (b) Food poisoning
      - (c) Toxic Shock Syndrome
      - (d) Staphylococcal scalded skin syndrome
    - 2. All of the following are true about Streptococcus pneumonia EXCEPT:
      - (a) They are capsulated diplococcic
      - (b) They ferment Inulin
      - (c) They are optochin sensitive
      - (d) They are bile insoluble
    - 3. Diptheria toxin is/are produced by following Corynebacterium species:
      - (a) C. diptheriae
      - (b) c. ulcerans
      - (c) C. pseudotuberculosis
      - (d) All of the above
    - 4. Pink eye and Brazilian purpuric fever are caused by:
      - (a) H. aegyptius
      - (b) H. influezae
      - (c) H. aphrophilus
      - (d) H. ducreyi



- (b) They cause Undulant fever
- (c) Castaneda's method of blood culture is used for isolation of Brucella
- (d) They are gram +ve cocci

# 6. Rocky Mountain Spotted fever is caused by:

- (a) R. prowazekii
- (b) R. rickettsii
- (c) R. typhi
- (d) O. tsutsugamushi

## 7. Venereal Syphilis is caused by:

- (a) T. pallidum
- (b) T.pallidum subsp. Endemicum
- (c) T. pallidum subsp.pertenue
- (d) T. carateum

## 8. All of these mycobacteria cause skin lesions except:

- (a) M. ulcerans
- (b) M. tuberculosis
- (c) M. marinum
- (d) None of the above

## 9. Food poisoning is caused by:

- (a) Staphylococcus aureus
- (b) Bacillus cereus
- (c) Clostridium perfringens
- (d) All of the above

# 10. All of the following Vibrio species are halophilic, Except

- (a) Vibrio vulnificus
- (b) Vibrio cholera
- (c) Vibrio parahaemolyticus
- (d) Vibrio alginolyticus

