



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

- Q1. Enumerate the various methods of horizontal gene transfer. Discuss in detail (20)
about mechanism of conjugation.
- Q2. Write briefly on: (4x5)
- Classical Complement pathway 3
 - Disposal of microbiology laboratory waste
 - Autoclave 2
 - Prozone phenomenon
- Q3. Multiple Choice Questions: (10x1)
- Polymerase chain reaction (PCR) was discovered by:**
 - Kary B Mullis
 - Goodpasture
 - Robert Koch
 - Edward Jenner
 - What is optimal temperature for growth of mesophilic bacteria?**
 - Below 20°C
 - 25-40°C
 - 55-80°C
 - None of the above
 - Loeffler's serum slope is an example of:**
 - Differential medium
 - Enriched medium
 - Selective medium
 - None of the above
 - Which of the following are true for bacterial plasmid EXCEPT**
 - They are extrachromosomal
 - They cannot replicate independently
 - They are not essential for bacterial life
 - They usually carry important genetic information
 - All of the following are heterophile agglutination tests Except:**
 - Weil Felix reaction
 - Paul Bunnell test
 - Cold agglutination test
 - Widal test
 - All of the following immunoglobulins are heat stable Except:**
 - IgM
 - IgG
 - IgE
 - IgA



7. Peritrichous flagella is found in which of the following bacteria:

- (a) *Escherichia coli* www.FirstRanker.com www.FirstRanker.com
(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

- Q1. Write pathogenesis, diagnosis and management of typhoid fever. (20)
- Q2. Write short notes on: (x6)
(a) Toxic shock syndrome ✓
(b) Nongonococcal urethritis-
(c) Non-typhoidal Salmonella
(d) Bacillary dysentery ✓
- Q3. Multiple Choice Questions: (10x1)
- 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
 - All of the following are true about *Streptococcus pneumonia* EXCEPT:
(a) They are capsulated diplococci
(b) They ferment Inulin
(c) They are optochin sensitive
(d) They are bile insoluble
 - Diphtheria toxin is/are produced by following *Corynebacterium* species:
(a) *C. diphtheriae*
(b) *C. ulcerans*
(c) *C. pseudotuberculosis*
(d) All of the above
 - Pink eye and Brazilian purpuric fever are caused by:
(a) *H. aegyptius*
(b) *H. influenzae*
(c) *H. aphrophilus*
(d) *H. ducreyi*

5. All of the following are true about Brucella Except:

- (a) They have predilection for the placenta
- (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*
