



# BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Sc.(PA)-2023

Course Name – Pathology & Clinical Microbiology

Course Code - BPAC204

( Semester II )

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

## Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Identify the temperature and time period commonly used for the hot air oven while sterilizing glassware in the laboratory
- a) 180 degrees Celcius for 30 mins                      b) 63 degrees Celcius for 30 mins  
c) 121 degrees Celcius for 15 mins                      d) 160 degrees Celcius for 45 mins
- (ii) Which of the following is an example of a sterilization method?
- a) Handwashing    b) Cleaning with soap and water  
c) Boiling    d) Autoclaving
- (iii) Indicate of the following is a chemical indicator used to monitor sterilization by autoclaving?
- a) Heat-sensitive tape                                      b) Bowie-Dick test pack  
c) Biological indicator                                      d) None of these
- (iv) Write the name of the process by which a macrophage engulfs a pathogen.
- a) Opsonization    b) Phagocytosis  
c) Complement fixation                                      d) Antibody-dependent cell-mediated cytotoxicity
- (v) Relate the term immunodeficiency to the immune system.
- a) A condition in which the immune system is unable to mount an effective response                      b) A type of immune cell that produces antibodies  
c) A protein that inhibits the immune response                      d) A hormone that regulates the immune system
- (vi) Represent the type of immune response that occurs during a delayed hypersensitivity reaction

- a) Type I hypersensitivity  
c) Type III hypersensitivity
- (vii) Write the name of the protein that plays a key role in the formation of blood clots during Inflammation
- a) C-reactive protein  
c) Interleukin-1
- (viii) Select the name of the vaccine used to prevent tuberculosis?
- a) Bacille Calmette-Gyrase (BCG) vaccine.  
c) Bacillus Calmette-Gyrase (BCG) vaccine.
- (ix) Indicate one of the acquired cause of cellular injury is
- a) genetic defect  
c) cytogenic
- (x) Differentiate between dysplasia and metaplasia
- a) dysplasia occurs in only epithelial tissue but metaplasia occurs in epithelial and mesenchymal tissues  
c) dysplasia occurs in uterine cervix and metaplasia occurs in bronchial mucosa
- (xi) Match the pathogenesis of Asthma
- a) 1. Immune, 2. pathochemical and 3. pathophysiologic  
c) 1. pathophysiologic, 2. Immune, 3. Pathochemical
- (xii) Recognize a common type of brain tumor:
- a) Renal tumor  
c) Glioma
- (xiii) Recognize a common type of paraplegia:
- a) Spastic paraplegia  
c) Hereditary spastic paraplegia
- (xiv) Identify a common method for diagnosing osteomyelitis:
- a) X-ray  
c) Bone biopsy
- (xv) Identify a common method for diagnosing osteoporosis:
- a) Dual-energy X-ray absorptiometry (DXA) scan  
c) CT scan
- b) Type II hypersensitivity  
d) Type IV hypersensitivity
- b) Fibrinogen  
d) Tumor necrosis factor-alpha
- b) Bacille Calmette-Guérin (BCG) vaccine.  
d) Bovine Cerum Gyrisse
- b) Hypoxia and ischaemia  
d) chromosomal abnormalities
- b) in dysplasia uncontrolled cell division occur but not in metaplasia  
d) None of these
- b) 1. pathochemical 2. Immune, and 3. pathophysiologic  
d) None of these
- b) Melanoma  
d) Lung tumor
- b) Traumatic paraplegia  
d) Ataxic paraplegia
- b) MRI scan  
d) Blood test
- b) Blood test  
d) MRI scan

### Group-B

(Short Answer Type Questions)

3 x 5=15

2. Define opportunistic infections and explain how they are related to the normal microbial flora. (3)
3. Differentiate between aerobic and anaerobic microorganisms in the human body. (3)
4. Identify the types of infections that are commonly treated with antibiotics (3)
5. Define nosocomial infections and explain how they are acquired. (3)
6. Explain the principle of Autoclave process (3)

OR

Explain the importance of proper disposal of infectious waste. (3)

### Group-C

(Long Answer Type Questions)

5 x 6=30

7. Mention the changes during Cholecystitis with symptoms (5)
8. Explain Tuberculin skin test principle with application (5)
9. Relate the difference in mechanism of action between bactericidal and bacteriostatic antibiotics. (5)
10. Mention the pathogenesis of Salmonella sp. in generation of Typhoid (5)
11. Indicate how antibiotics can disrupt the normal microbiota of the human body. (5)
12. Explain neoplasia with examples (5)

**OR**

Compare neoplasia with examples (5)

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