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(एक राष्ट्रीय महत्व का संस्थान, विज्ञान एवं प्रौद्योगिकी विभाग, भारत सरकार)
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ROLL NUMBER

**WRITTEN TEST FOR THE POST OF
TECHNICAL ASSISTANT (LAB) - A to B**

DATE: 24/09/2026

TIME: 10:00 AM to 11:00 AM

DURATION: 60 MINUTES

Total Marks: 50

INSTRUCTIONS TO THE CANDIDATES

1. Write your Roll Number on the top of the Question Booklet and in the answer sheet.
2. Each question carries 1 mark.
3. There will not be any Negative Marking.
4. Write legibly the alphabet of the most appropriate answer (A, B, C or D) in the separate answer sheet provided.
5. Over-writing is not permitted.
6. Candidate should sign in the question paper and answer sheet.
7. No clarifications will be given.
8. Candidate should hand over the answer sheet to the invigilator before leaving the examination hall.

Signature of the Candidate

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Signature

MFCP- Technical Assistant (Lab) A to B

1. Each of the following organisms is an important cause of Upper respiratory tract infection except:
 - a. *Streptococcus pneumoniae*
 - b. *Escherichia coli*
 - c. *Hemophilus influenzae*
 - d. *Moraxella catarrhalis*
2. Gastrointestinal pathogens include all the following except:
 - a. *Staphylococcus aureus*
 - b. *Salmonella enteritidis*
 - c. *Shigella flexneri*
 - d. *Enterococcus faecium*
3. The disease where it is necessary to demonstrate toxin production by the bacteria is:
 - a. Diphtheria
 - b. Tuberculosis
 - c. Plague
 - d. Typhoid
4. Methylene blue in Ziehl-Neelsen stain is the?
 - a. Negative stain
 - b. Counterstain
 - c. Primary stain
 - d. Differential stain
5. Which antibiotic disc is used to detect inducible AmpC beta lactamase producing Enterobacteriaceae?
 - a. Cefuroxime
 - b. Cefotaxime
 - c. Cefalothin
 - d. Meropenem
6. Who was the first to see bacteria under a microscope?
 - a. Louis Pasteur
 - b. Frederick Griffith
 - c. Anton Van Leeuwenhoek
 - d. Oswald Avery
7. Which part of the bacteria cell is responsible for motility?
 - a. Cell wall
 - b. Cell membrane
 - c. Flagella
 - d. Capsule
8. *Elizabethkingia meningoseptica* is the only Gram negative that is sensitive to:
 - a. Vancomycin
 - b. Colistin
 - c. Co-trimoxazole
 - d. Ertapenem
9. Group A Streptococci include:
 - a. *Streptococcus pneumoniae*
 - b. *Streptococcus pyogenes*
 - c. *Streptococcus salivarius*
 - d. *Streptococcus mitis*
10. How many different tests have to be done to confirm HIV infection in an asymptomatic person:
 - a. One
 - b. Two
 - c. Three
 - d. Four
11. The most specific and sensitive test for Dengue in the first 5 days of illness is:
 - a. IgG ELISA
 - b. RTPCR
 - c. IgM ELISA
 - d. Lateral flow assay
12. Laboratory diagnosis of Viral encephalitis can be done by:
 - a. Brain biopsy
 - b. CSF RTPCR
 - c. IgM ELISA of serum
 - d. Blood RTPCR



13. Medium used for cultivation of *Acanthamoeba*:
- a. Diamond's medium
 - b. Modified Diamond's medium
 - c. NNN medium
 - d. Non-nutrient agar with *E. coli*
14. Motility of *Giardia lamblia* is:
- a. Gliding
 - b. Falling leaf
 - c. Darting
 - d. Swimming
15. Thick smear is used in the diagnosis of:
- a. Toxoplasmosis
 - b. Malaria
 - c. Leishmaniasis
 - d. Schistosomiasis
16. Which of the following is a bile-stained egg:
- a. *Ancylostoma duodenale*
 - b. *Enterobius vermicularis*
 - c. *Hymenolepis nana*
 - d. *Taenia solium*
17. The ova that DO NOT float in saturated salt solution:
- a. *H. nana*
 - b. *T. solium*
 - c. Fertilised *Ascaris* eggs
 - d. *Ancylostoma duodenale*
18. *Cryptococcus gatti* can be differentiated from *C. neoformans* by :
- a. Infects immunocompromised
 - b. Capsule is absent
 - c. Using MALDI-TOF
 - d. Niger seed agar
19. Each of the following statements concerning *Candida albicans* is correct EXCEPT:
- a. *C. albicans* is transmitted primarily by contact
 - b. Hair perforation test confirms its identification
 - c. *C. albicans* causes thrush
 - d. *C. albicans* is a budding yeast that forms pseudohyphae
20. Dematiaceous fungi are all except:
- a. Have unsegmented hyphae
 - b. Are pigmented
 - c. Have phialides
 - d. Cause systemic infection
21. *Aspergillus fumigatus* is characterised by all except;
- a. Rapid growth on Sabouraud's agar
 - b. Brush-like arrangement of conidia
 - c. Vesicle with uni or bi-seriate conidia
 - d. Dark green velvety colonies
22. All the following are dermatophytes , EXCEPT:
- a. *Trichosporon asahii*
 - b. *Trichophyton rubrum*
 - c. *Microsporum canis*
 - d. *Epidermophyton floccosum*
23. The stain used for wet mount of fungus is:
- a. Lacto-phenol Cotton Blue
 - b. Methylene Blue
 - c. Safranin
 - d. Lugol's Iodine



24. Mucormycosis was reported widely all over India during the COVID-19 pandemic. The microscopy showed the following characteristic:
- Black pigment
 - Dichotomous branching
 - Segmented hyphae
 - Non-parallel sides of hyphae
25. Cornmeal agar is used to demonstrate:
- Aspergillus niger* black pigment
 - Chlamydospores of *Candida albicans*
 - Cryptococcus neoformans* capsule
 - Penicillium marneffi* pigment
26. Hepatitis B infection is detected by
- Hbs Antigen in blood
 - HBc Ag in serum
 - Anti-HBs in serum
 - Anti-HBc antibody in serum
27. Procalcitonin is a prohormone that is raised in:
- Hyperthyroidism
 - Sepsis
 - Leukemia
 - Angina pectoris
28. The C in C-reactive protein denotes:
- Complement
 - Capsular polysaccharide
 - Cell wall
 - Cryptococcus
29. Rising levels of Lactic acid in blood indicates:
- Impaired tissue oxygenation
 - Coronary artery disease
 - Muscle breakdown
 - Renal failure
30. Serological marker of a second dengue infection is:
- NS2 antibody
 - NS1 antigen
 - Dengue type 3 by RTPCR
 - Anti-dengue IgG antibody
31. Why is RT-PCR particularly essential for diagnosing certain microbial infections (such as Influenza, SARS-CoV-2, or HIV)?
- These microbes have a single- or double-stranded RNA genome
 - DNA polymerase cannot function at room temperature
 - RNA degrades too quickly to be sequenced directly
 - It eliminates the need for primers
32. In real-time quantitative RT-PCR (qRT-PCR), what is used to monitor the accumulation of the amplified product?
- Ethidium bromide staining on a manual gel after 40 cycles
 - Fluorescent reporter probes or dyes measured every cycle
 - Radioactive isotopes measured at the end point only
 - pH indicators changing color in the vial
33. What does the acronym RT-PCR stand for in microbial diagnostics?
- Real-Time Protein Chain Reaction
 - Reverse Transcription-Polymerase Chain Reaction
 - Rapid Testing-Pathogen Chain Reaction
 - Recombinant Template-PCR
34. Which of the following best describes the typical structure of a bacterial chromosome?
- Single double stranded circular DNA molecule
 - Double stranded RNA molecule
 - Chromosomes arranged in parallel in anucleus
 - Two double stranded DNA molecules
35. What method of bacterial gene transfer involves the role of viruses?
- Transformation
 - Transduction
 - Conjugation
 - Translation

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36. Which of the following functions are associated with plasmids?
- Multi-drug resistance transfer and conjugation
 - Bacterial gas exchange
 - Transfer of molecules across the cell membrane
 - Toxin production
37. The coagulase test is used to differentiate
- Group B Streptococcus from Staphylococcus
 - Proteus mirabilis* from *P. vulgaris*
 - Staphylococci other than *S.aureus*(SOSA) from *S.aureus*
 - Enterococci from gram negatives
38. The causative agent of melioidosis is:
- Burkholderia mallei*
 - Burkholderia pseudomallei*
 - Pseudomonas stutzeri*
 - Pseudomonas aeruginosa*
39. The causative agent of Bubonic plague is:
- Stenotrophomonas maltophilia*
 - Listeria monocytogenes*
 - Pasteurella multocida*
 - Yersinia pestis*
40. Hemophilus influenza is identified by enhancement of growth near:
- X factor
 - V factor
 - X and V Factor
 - EDTA disc
41. A sputum sample shows pus cells on gram stain. There is heavy growth of alpha hemolytic flat colonies. Likely organism is:
- Staphylococcus aureus*
 - Streptococcus pyogenes*
 - Streptococcus pneumoniae*
 - Staphylococcus epidermidis*
42. A urine sample shows significant growth of flat lactose fermenting colonies. Likely organism is:
- Salmonella species*
 - E.coli*
 - Pseudomonas aeruginosa*
 - Stenotrophomonas maltophilia*
43. A pus sample shows golden yellow beta haemolytic colonies. What further test will be one to identify the organism
- Oxidase test
 - Coagulase test
 - Indole
 - Urease
44. A fecal sample was received. Which enrichment medium can be used for Salmonella?
- Alkaline peptone water
 - Salmonella Shigella agar
 - Stuart's medium
 - Selenite F broth
45. A CSF sample was received. To encourage growth of Meningococci, which medium will help?
- Chocolate agar
 - Blood agar
 - MacConkey agar
 - Sabouraud dextrose agar
46. A throat swab on gram stain showed gram positive thin bacilli in palisade arrangement. Which special medium will you use for this pathogen to identify it ?
- Tellurite agar
 - Blood Agar
 - Chocolate agar
 - MacConkey agar
47. A patient with fever of 8 days duration. Blood was sent for testing. Which test will you do for diagnosis of Dengue?
- NS1 antigen
 - IgM ELFA for dengue
 - RT-PCR for dengue
 - Multiplex PCR

48. Blood culture of a patient on gram stain showed Gram negative thick bacilli. What will you do to give a report the next day?
- Subculture on Mac Conkey agar
 - Do a direct sensitivity testing
 - Upload the blood sample on VITEK identification system
 - Subculture on Bood Agar
49. An endotracheal aspirate has heavy growth of oxidase positive non lactose fermenting pigmented colonies. It is most likely to be:
- Klebsiella pneumoniae*
 - Elizabethkingia species*
 - Escherichia coli*
 - Serratia marscecens*
50. A pleural fluid sample shows gram negative coccobacilli and pus cells on gram stain. Probable organism is:
- Acinetobacter baumanii*
 - Klebsiella pneumoniae*
 - Streptococcus pneumoniae*
 - Enterococcus faecalis*



MFCP 2026

Technical Asst (Lab) Answer Key

Question Number	Answer	Question Number	Answer
1	B	36	A
2	D	37	C
3	A	38	B
4	B	39	D
5	D	40	C
6	C	41	C
7	C	42	B
8	A	43	B
9	B	44	D
10	C	45	A
11	B	46	A
12	B	47	B
13	D	48	B
14	B	49	B
15	B	50	A
16	D		
17	C		
18	C		
19	B		
20	A		
21	B		
22	A		
23	A		
24	D		
25	B		
26	A		
27	B		
28	B		
29	C		
30	D		
31	A		
32	B		
33	B		
34	A		
35	B		