Microbiology INI-2025 (May) Reworked

Subject: Microbiology
Topic: Immunology
Subtopic: Syndromes
Question Number: 1
Clinical question:
HLA mismatched in organ transplant will not cause a problem in patients with which disease?

Options:

A) Jobs syndrome
B) Chediak-Higashi syndrome
C) Bare lymphocyte syndrome
D) Wiskott-Aldrich syndrome

Correct Answer: C) Bare lymphocyte syndrome

Subject: Microbiology
Topic: Bacteriology
Subtopic: Mastitis
Question Number: 2
Clinical question:
A 28-year-old lactating woman has a painful lump in her breast. The lump is firm and tender. She has no systemic symptoms. Imaging reveals an inflammatory mass, and biopsy shows granulomatous mastitis. Which of the following is the most likely causative organism?

Options:

A) Mycobacterium tuberculosis
B) Staphylococcus aureus
C) Corynebacterium minutissimum
D) Nocardia species

Correct Answer: C) Corynebacterium minutissimum

Subject: Microbiology
Topic: HIV
Subtopic: Opportunistic Infections
Question Number: 3
Clinical question:
A HIV-positive patient presents with dysphagia and odynophagia. Esophagus shows white plaque. What is the most likely cause of this from the following?

Options:

A) Budding yeast cells with pseudo hyphae
B) Thin septate hyphae with acute angle branching
C) Acid fast bacilli
D) Giant eosinophilic cell with granuloma

Correct Answer: A) Budding yeast cells with pseudo hyphae

Subject: Microbiology
Topic: Bacteriology
Subtopic: Vibrio
Question Number: 4
Non - Clinical question:
Kanagawa phenomenon in Wagatsuma agar is seen in which organism?

Options:

A) Vibrio cholera
B) Vibrio parahaemolyticus
C) Staphylococcus aureus
D) Clostridium difficile

Correct Answer: B) Vibrio parahaemolyticus

Subject: Microbiology
Topic: Mycology
Subtopic: Dimorphic Fungi
Question Number: 5
Non - Clinical question:
Which of the following is NOT a dimorphic fungus?

Options:

A) Histoplasma capsulatum
B) Coccidioides
C) Cryptococcus neoformans
D) Teleromyces marneffi

Correct Answer: C) Cryptococcus neoformans

Subject: Microbiology
Topic: Parasitology
Subtopic: Helminths
Question Number: 6
Clinical question:
Which helminth most commonly causes autoinfection?

Options:

A) Strongyloides stercoralis
B) Ancylostoma duodenale
C) Ascaris lumbricoides
D) Hymenolepis nana

Correct Answer: A) Strongyloides stercoralis

Subject: Microbiology
Topic: Parasitology
Subtopic: Protozoa
Question Number: 7
Clinical question:
Which protozoa have more than 2 morphological forms?

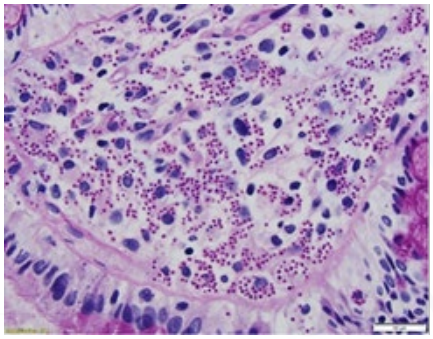
1) Naegleria
2) Acanthamoeba
3) Trichomonas
4) Giardia

Options:

A) 1, 2 & 3
B) 1, 2 & 4
C) 3, 2 & 4
D) 1 & 2 only

Correct Answer: B) 1,2 & 4

Subject: Microbiology
Topic: Stains
Subtopic: Renal Transplantation
Question Number: 8
Clinical question:
Which of the following stains is not used to identify organisms in a post renal transplantation patient?



Options:

A) Grocott-Gomori methenamine silver (GMS)
B) Fontana Masson stain
C) Periodic Acid-Schiff (PAS)
D) Congo red stain

Correct Answer: D) Congo red stain

Subject: Microbiology
Topic: Parasitology
Subtopic: Entrobius
Question Number: 9
Clinical question:
A child presented with intense perianal itching. His mother complains of seeing thread like worms in the perianal area. Scotch tape method was used to collect a stool sample and it showed eggs as seen in the image below. Identify the organism.



Options:

A) Ascaris lumbricoides
B) Enterobius vermicularis
C) Hymenolepis nana
D) Hookworm

Correct Answer: B) Enterobius vermicularis

Subject: Microbiology
Topic: Immunology
Subtopic: Antibody
Question Number: 10
Clinical question:
Identify the following antibody:



Options:

A) IgG
B) IgA
C) IgE
D) IgM

Correct Answer: B) IgA

Subject: Microbiology
Topic: Toxoplasma
Subtopic: Culture Methods
Question Number: 11
Clinical question:
Which of the following methods is commonly used for culturing Toxoplasma gondii in a laboratory setting?

Options:

A) Stool culture
B) Peritoneal inoculation in mice
C) Blood agar culture
D) Chocolate agar culture

Correct Answer: B) Peritoneal inoculation in mice

Subject: Microbiology
Topic: Bacteriology
Subtopic: Investigations
Question Number: 12
Clinical question:
Match the following diagnostic tests with the organisms they help identify:

1 - CAMP test	A) Streptococcus pneumoniae
2 - Elek's gel precipitation test	B) Corynebacterium diphtheriae
3 - Quellung reaction	C) Staphylococcus aureus
4 - VDRL test	D) Group B Streptococcus
5 - Slide coagulase test	E) Bacillus anthracis
6 - MacFadyean reaction	F) Treponema pallidum

Options:

A) 1-D, 2-B, 3-A, 4-F, 5-C, 6-E
B) 1-B, 2-D, 3-A, 4-C, 5-E, 6-F
C) 1-C, 2-A, 3-D, 4-E, 5-F, 6-B
D) 1-A, 2-F, 3-B, 4-D, 5-C, 6-E

Correct Answer: A) 1-D, 2-B, 3-A, 4-F, 5-C, 6-E

Subject: Microbiology
Topic: General Microbiology
Subtopic: Gene Sequencing
Question Number: 13
Clinical question:
Which of the following methods can be used to identify different strains of the same species of Mycobacterium tuberculosis?

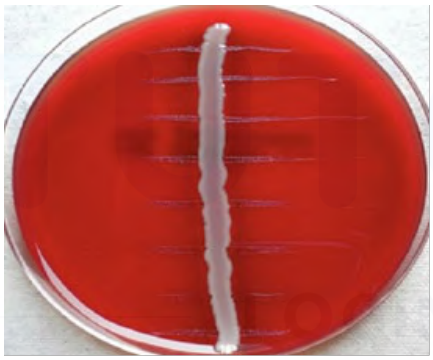
1) RFLP (Restriction Fragment Length Polymorphism)
2) Chromosomal mutation detection
3) Spoligotyping
4) Multiple interspaced repetitive unit typing (MIRU-VNTR)

Options:

A) 1, 2, 3, 4
B) 2, 3
C) 2, 3, 4
D) 3, 4

Correct Answer: A) 1, 2, 3, 4

Subject: Microbiology
Topic: Bacteriology
Subtopic: Hemophilus
Question Number: 14
Non - Clinical question:
Identify the organism by this test.

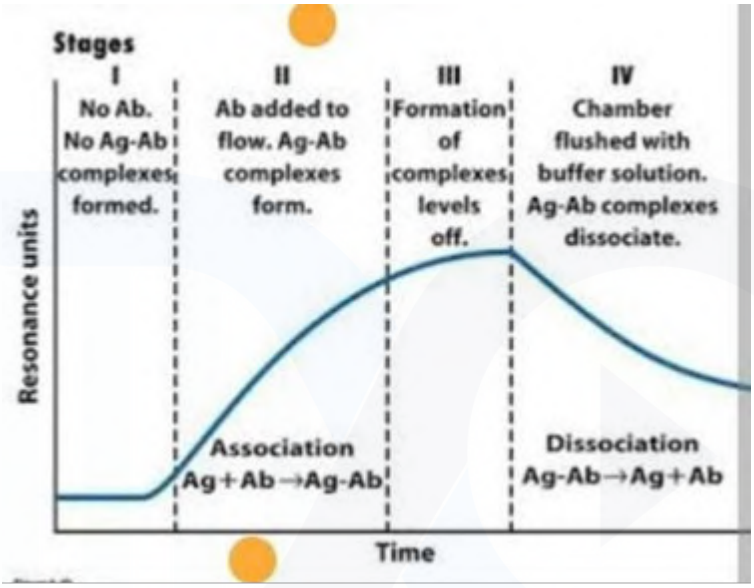


Options:

A) Group B streptococcus
B) Hemophilus influenza
C) Corynebacterium diphtheriae
D) Clostridium tetani

Correct Answer: B) Hemophilus Influenza

Subject: Microbiology
Topic: Immunology
Subtopic: Laboratory techniques
Question Number: 15
Clinical question:
The following curve demonstrates which of the following laboratory techniques used to study antigen-antibody interactions in real-time?



Options:

A) ELISA (Enzyme-Linked Immunosorbent Assay)
B) Isothermal Titration Calorimetry (ITC)
C) SPR (Surface Plasmon Resonance)
D) Immunofluorescence assays

Correct Answer: A) ELISA (Enzyme-Linked Immunosorbent Assay)

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