Past Papers

بسم الله الرحمن الرحيم

DOPAMINE
SCIENTIFIC TEAM

بحران

MID – Lecture 1 to 4

Microbiology

﴿ وَإِن تَتَوَلَّوْا يَسْتَبْدِلْ قَوْمًا غَيْرَكُمْ ثُمَّ لَا يَكُونُوا أَمْثَالَكُم ﴾

اللهم استعملنا ولا تستبدلنا

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First we will start with (40) past Qs

then there will be (19) test bank Qs

(all Qs will be by default past unless it is written to be test bank)

Q1: Penicillin is a widely used antibiotic which targets beta-lactam ring in the outer layer of bacteria. It was discovered by:

1. Kary Mullis
2. Alexander Fleming
3. Robert Koch
4. Louis Pasteur
5. John Hunter

Answer: 2

Q2: One of the following characteristics IS TRUE about Protozoa and Helminthes?

1. Contain either DNA or RNA
2. Mitochondria is absent
3. The method of replication is Mitosis
4. The sedimentation coefficient of ribosomes is 70s
5. Have rigid wall containing chitin

Answer: 3

Q3: What is the size of bacteria:

1. 0.05-10 micrometers
2. 0.05-10 nanometers
3. 0.1-10 micrometers
4. 0.1-10 nantimeters
5. 1-10 micrometers

Answer: 1

Q4: The main feature of prokaryotic organism is:

1. Absence of locomotion
2. Absence of nuclear envelope
3. Absence of nuclear material
4. Absence of protein synthesis
5. Absence of Cell wall

Answer: 2

Q5: One of the following is Not true:

1. Viruses usually cause intracellular infection
2. Yeast are unicellular organisms
3. Large protozoa can cause extracellular infection
4. Helminthes are unicellular and reach only a few meters in length
5. None of the above

Answer: 4

Q6: Which of the following is found in prokaryotic cells, but not in human cells:

1. Ribosomes
2. Cell membrane
3. Cytosol
4. Cell wall
5. Endoplasmic Reticulum

Answer: 4

Q7: Which of the following is NOT true regarding bacterial cell wall?

1. Can be Gram-positive or Gram-negative
2. Is found in all bacteria
3. Protects against osmotic changes
4. A target for some antibiotics
5. 2 and 4

Answer: 2

Q8: Which statement about gram negative bacteria is false?

1. They have a thick monolayer of peptidoglycan
2. Lipid A is an endotoxin and can lead to shock
3. The outer membrane protects the bacteria
4. Cytoplasmic membrane contains LPS
5. More than one correct answer

Answer: 5 (1+4)

Q9: Which of the following is a true statement regarding Endotoxins:

1. Is ONLY found in Gram-negative bacteria
2. Suppresses The immune system
3. Found in both Gram-positive and Gram-negative Bacteria
4. Lipoteichoic acid and Lipopolysaccharides are two examples of endotoxins
5. 3 and 4

Answer: 1

Q10: Endotoxin produced by Gram-negative bacteria is present in:

1. Peptidoglycan
2. Lipopolysaccharide
3. Teichoic acid
4. Inner membrane
5. 2 and 3

Answer: 2

Q11: The staining material of Gram-positive bacterium is:

1. Fast green
2. Hematoxylin
3. Crystal violet
4. Safranin
5. Iodine

Answer : 3

Q12: Which answer best describes the cell wall of Gram-negative bacteria?

1. Thick
2. Lipids are absent
3. Teichoic acids are absent
4. Peptidoglycans are absent
5. More than one correct answer

Answer : 3

Q13: Teichoic acids and Lipoteichoic acids are found in:

1. Gram-positive bacteria
2. Gram-negative bacteria
3. Fungi
4. More than one correct answer
5. None of the above

Answer : 1

Q14: The difference between Gram-positive and Gram-negative bacteria is shown to reside in the:

1. **Cell wall**
2. Nucleus
3. Cell membrane
4. Mesosomes
5. More than one correct answer

Answer: 1

Q15: The Cell wall is:

1. more thick in Gram-positive bacteria than Gram negative bacteria.
2. more thick in Gram-negative bacteria than Gram-positive bacteria.
3. equally thick in both Gram-negative and Gram-positive bacteria.
4. ALWAYS present for all bacteria.
5. More than one correct answer.

Answer: 1

Q16: Teichoic acid is:

1. Found in the cell walls of Gram-positive bacteria
2. an antigen for a macrophage receptor (immunogenic)
3. Makes up the outer wall of Gram-negative bacteria
4. Influences the permeability of the membrane
5. More than one correct answer

Answer: 5 (1+2)

Q17: Regarding the function of the Bacterial cell wall, All the following are considered True except:

1. Bacterial rigidity and shape.
2. Protection against osmotic changes.
3. Structure is the same in gram positive and negative bacteria.
4. Porous to allow nutrients passage.
5. Loss of this wall will cause death of the bacteria.

Answer: 3

Q18: Regarding Gram-negative bacteria, one of the following statements is true:

1. **LPS is the main cause for endotoxin shock**
2. Its cell wall has a lot of Teichoic acid
3. They have a thick monolayer of peptidoglycan
4. A+C
5. None of the above

Answer: 1

Q19: Which of the following statements is correct regarding Gram-negative bacteria:

1. Thick peptidoglycan layer
2. Stains purple
3. Doesn’t have an outer membrane
4. Contains endotoxin
5. Has more than 10 layers of peptidoglycan

Answer: 4

Q20: What is the color of gram-negative bacteria after the decolorization step

1. Pink-Red
2. Yellow
3. Blue
4. Purple
5. Colorless

Answer: 5

Q21: In most bacteria, the capsule consists mainly of:

1. Polysaccharides
2. Proteins
3. Lipids
4. Metals
5. Peptidoglycan

Answer: 1

Q22: Conjugation is best described as:

1. Plasmid movement by cell-cell contact
2. Uptake of naked DNA
3. Using bacteriophages as vectors
4. Jumping genes
5. Meiosis

Answer: 1

Q23: Which of the following is NOT true regarding flagella?

1. They are made of subunits called flagellins
2. They help in motility
3. They are not antigenic
4. Their rotation machinery utilizes proton gradient
5. has 4 anchoring rings in Gram-negative bacteria and 2 anchoring rings in Gram-positive bacteria.

Answer: 3

Q24: Which structure is responsible for bacterial attachment:

1. Flagella
2. Lipopolysaccharides
3. cell wall
4. Spores
5. Fimbria / Pilli

Answer: 5

Q25: The sex pilus is used for:

1. Motility
2. withstanding harsh conditions
3. Conjugation
4. Replication of Plasmids
5. 3 and 4

Answer: 3

Q25: Lophotrichous means:

1. Flagella at both poles
2. Flagella all around the cell
3. Tuft of flagella on one pole
4. Tuft of flagella at both poles
5. Flagella at one pole

Answer: 4

Q27: Inhibiting synthesis of one of the following can significantly affect bacterial adhesion to epithelial cells:

1. Flagellum
2. Capsule
3. Fimbria
4. Cell wall
5. Spore

Answer: 3

Q28: Bacterial capsule is chemically composed of:

1. Polypeptides
2. Polynucleotides
3. Polysaccharides
4. Polypeptides or polysaccharides
5. Lipopolysaccharides

Answer: 4

Q29: Bacteria with one flagellum at one end is called:

1. Monotrichous
2. Amphitrichous
3. Lophotrichous
4. Peritrichous
5. Endotrichous

Answer: 1

Q30: What is the function of bacterial capsule?

1. Protection of organism from phagocytosis
2. Helps in adherence of bacteria to surface in its environment
3. Conjugation
4. 1 and 2 only
5. None of these

Answer: 4

Q31: single flagella at both ends, describes which on of the following types of flagellar arrangement:

1. Amphitrichous
2. Peritrichous
3. Lophotrichous
4. Monotrichous
5. Polar flagellum

Answer: 1

Q32: Which of the bacterial virulence factors contribute to the initiation of an infection in the upper respiratory tract?

1. presence of a capsule
2. Flagella presence
3. Complement inhibitors
4. Antimicrobial resistance
5. Adhesion in pili

Answer: 5

Q33:Which structure can be found in prokaryotes but not in human cells

1. PG
2. Plasma membrane
3. Ribosomes
4. Cell wall
5. LPS

Answer: 4

Q34:About gram negative bacteria, one is False?

A. They have a thick monolayer of peptidoglycan

B. Lipid A can lead to endotoxin

C. The outer membrane protects the bacteria

D. Outermost membrane contains LPS

Answer: A

Q35:One of the following Bacteria is an obligate intracellular?

A. Clostridium

B. Mycoplasma

C. Bacillus

D. Chlamydia

E. Mycobacteria

Answer:
B+D

Q36:In Escherichia coli, Escherichia is:

A) Species

B) Family

C) Genus

D) Class

Answer: C

Q37:Coagulase test differentiates between

A) Staphylococci from streptococci

B) Streptococci from enterococci

C) Staph aureus from staph epidermis

D) Staph epidermidis from staph saprophyticus

Answer: C

Q38:Bacteria which produces coagulase is:

A) S epidermidis

B) S saprophyticus

C) S aureus

D) S hominis

Answer: C

Q39:Staining material of gram positive bacterium is

A) Fast green

B) Haematoxillin

C) Crystal violet

D) Safranin

Answer: C

Q40:Rod shaped bacteria are known as

A) Cocci

B) Comma forms

C) Bacilli

D) Plemorphic froms

Answer: C

Test bank Qs

Test bank Q

Q 41: What is the role of plasmids in bacteria?

A) Energy storage

B) Providing resistance to antibiotics

C) Protein production

D) Transporting nutrients

E) Acting as receptors for antibiotics

Answer : B

Test bank Q

Q 42: What is the mesosome in bacteria?

A. Contains respiratory enzymes

B. Useful in energy production

C. Contributes to cell division

D. Located on the cell wall

E. All of the above are correct except D

Answer : E

Test bank Q

Q 43: What happens to Gram-negative bacteria after the alcohol step ?

A) They retain the crystal violet stain

B) They lose the crystal violet stain and become colorless

C) it becomes G+VE

D) Their walls thicken

E) Two options could be correct

Answer : B

Test bank Q

Q 44:Why do Gram-negative bacteria become colorless during the alcohol/acetone step?

A) Due to the thin peptidoglycan layer

B) Due to the lack of cholesterol

C) Due to the outer membrane and thin peptidoglycan layer

D) Due to prions

E) A + C

Answer : E

Test bank Q

Q 45: Which of the following pairs is correctly matched?

A. Ignaz Semmelweis — pioneered the concept of vaccines.

B. Louis Pasteur — discovered the principle of fermentation of alcohol.

C. Alexander Fleming — (PCR) technique.

D. Harald zur Hausen — first to observe live microorganisms in water.

E. All options are incorrec

Answer : B

Test bank Q

Q 46: What happens to Gram-negative bacteria after the alcohol step ?

A) They retain the crystal violet stain

B) They lose the crystal violet stain and become colorless

C) it becomes G+VE

D) Their walls thicken

E) Two options could be correct

Answer :B

Test bank Q

Q 47: Which of the following statements is true regarding prokaryotic cells?

A. ATP may be produced in them through the Krebs cycle.

B. Chromosomes are always in a circular shape.

C. They contain organelles such as ribosomes, allowing for the synthesis of more

proteins, making them larger than eukaryotic cells.

D. All prokaryotic cells contain a cell wall.

E. All options are incorrect

Answer : E

Test bank Q

Q 48: A new bacterium linked to an infectious disease was studied. It was found in 8 out of 20 patients, while 12 other patients showed no symptoms. Researchers were unable to re-isolate the bacterium from the symptomatic patients.

Which of the following statements best explains whether this bacterium can be considered the main cause of the disease?

A. The bacterium cannot be considered the main cause because it wasn't re-isolated from all patients.

B. The bacterium cannot be considered the main cause because 12 patients did not show any symptoms.

C. The bacterium can be considered the main cause because it was found in 40% of the patients.

D. The bacterium cannot be considered the main cause due to the possibility of other contributing factors.

E. Both A and B are correct.

Answer : E

Test bank Q

Q 49: Which bacterial structure is involved in the development of dental caries?

A) Flagella

B)Glycocalyx

C)Plasmid

D)Spores

E)Pili

Answer: B

Test bank Q

Q 50: The function of the bacterial capsule in Virulence?

A) Resistance to antibiotics

B) Help in conjugation

C) Form dental caries

D) Trigger spore formation

E) Protect cell wall from phagocytosis

Answer: E

Test bank Q

Q 51: Which of the following is false about Flagella:

A) Has two stimulating agents ; chemical and light

B) Endoflagella are also called axial filaments

C) Example of axial filaments are in spirochetes

D) Positive chemotactic response corresponds to tactic respons away from material

E) Main function is the organ of motility

Answer: D

Test bank Q

Q 52: In formation of Endospore which order is correct chronologically for the formation of the different layers:

A) Capsule ---> Cortex---> Exosporium

B) Cortex ---> Spore Coat ---> Capsule

C) Spore Coat ---> Exosporium ---> Cortex

D) Spore Coat ---> Cortex ---> Exosporium

E) Cortex ---> Spore Coat ---> Exosporium

Answer: E

Test bank Q

Q 53: Which of the following statements about Pili is true:

A) Seen by Light microscope and EM

B) Long pili adhere to host cell in lumen of urethra thus resist fleshing of the urine

C) Male bacteria is fertile

D) Sex pili extend originally from female bacteria

E) Ordinary pili adhere to antigens on host cell

Answer: C

Test bank Q

Q 54: Which of the following is false about spores:

A) The only 2 types of bacteria that form spores are Bacillus and Clostridium

B) Forms in VITRO

C) Highly resistant

D) Able to reproduces and form divisions

E) Occur at unfavorable conditions

Answer: D

Test bank Q

Q 55: Which of the following corresponding pairs on spore position is correct:

A)Central & Spherical ; *B. anthracis*

B)Sub-terminal & Spherical ; *Cl. tetani*

C) Central & Oval ; *B. tetani*

D) Terminal & Spherical ; *Cl. tetani*

E) Terminal and Oval ; *Cl. perfringens*

Answer: D

Test bank Q

Q 56: Which of the following components is not a part of the Endospore cortex ?

A) Cell membrane

B) Ca 2+

C) Collagen like protein

D) Peptidoglycan

E) Dipicolinic acid

Answer: C

Test bank Q

Q 57: All of the following components are present in the structure of the Flagella except:

A) Hook

B) Spirochete

C) Filament

D) Rings

E) All of the above present

Answer: B

Test bank Q

Q 58: Which of the following is true about the Quelling reaction?

A) After addition of antiserum capsule shrinks in size

B) One of the mechanism used to identify bacteria that has pili

C) Capsule becomes swollen due to Antiserum

D)Antiserum has specific antigens that bind to the capsule

E) None of the above are true

Answer: C

Test bank Q

Q 59: The structure responsible for transferring DNA between bacterial cells during conjugation is:

A) Flagella

B) Ordinary Pilli

C) Sex Pilli

D) Capsule

E) Spore

Answer: C

For any feedback, scan the code or click on it.

Corrections from previous versions:

Versions	Question #	Before Correction	After Correction
V1 → V2	30 44	B B	D E
V2 → V3			