

Microbiology

Al-Azhar University – Gaza

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Faculty of Pharmacy

Pharmaceutical microbiology & Parasitology

Final Exam

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Question No	Marks
Q1 Question No. 1	50
Question No. 2	10
Question No. 3	15
Question No. 4	15
Question No. 5	5
Question No. 6	5
Total	100

Instructions

- 1- Don't use a pencil or a red pen in your answer
- 2- Be sure that you have an exam with 12 different pages

Part I. Microbiology

Please choose the best correct answer

(50 marks)

1. *Streptococci viridians* commonly cause

- a. Pneumonia
- b. Meningitis
- c. Subacute endocarditis
- d. Otitis media
- e. None of the above

2. Syphilis is treated by.....

- a. Tetracycline
- b. Chloramphenicol
- c. Penicillin G
- d. Ampicillin
- e. None of the above

3. All of the following are non motile bacillus bacteria except

- a. *Proteus*
- b. *Klebsilla pneumoniae*
- c. *Yersina pestis*
- d. *Shigella dysentre*
- e. *Ligonella pneumophilia*

4. Loffelers medium is specially used for identification of

- a. *Mycobacteria*
- b. *Mycoplasmas*
- c. *Chlamydia*
- d. *Rickettsia*
- e. *Corynobacterium dipheteria*

5. Which of the following bacteria transmitted orally ,cutaneous , and by inhalation ?

- a. *Bacillus anthracis*
- b. *Escherichia-coli*
- c. *Corynebacterium*
- d. *Brucella*
- e. None of the above

6. Catalase test is used for differentiation between

- a. *Klebsilla* and streptococci
- b. *Staphylococcus* species
- c. *Streptococcus* species
- d. *Staphylococcus* and *Streptococcus*
- e. None of the above.

7. Which of the following bacteria lack spore

- a. *Clostridium perferinges*
- b. *Bacillus anthracis*
- c. *Psuedomembranous colitis* bacteria
- d. *C.botulinum*
- e. None of these

8. *Corynebacterium diphtheria* is

- a. G negative bacilli
- b. Non acid fast cocci
- c. Pleomorphic bacilli
- d. aerotolerant
- e. None of these

9. Which of the following enzymes acts as a spreading factor?

- a. Lipase
- b. Coagulase
- c. Catalase
- d. DNase
- e. None of these.

10. Enterotoxigenic *E. coli* K88 are limited to pigs is example on

- a. Tissue tropism
- b. Species specificity
- c. Genetic specificity
- d. b and c
- e. None of these

11. DPT vaccine gives protection against all of the following except

- a. *Corynebacterium diphtheria*
- b. *C. tetani*
- c. *Listeria monocytogenes*
- d. Whooping cough bacteria
- e. None of these

12. Listeriosis can be treated by

- a. Amikacin
- b. Ampicillin
- c. Tetracycline
- d. Gentamycin
- e. b and d

13. *Borella burgdorff* causes

- a. Trachoma
- b. Syphilis
- c. Q fever
- d. Lyme disease
- e. None of these

14. Urinary tract infections caused by all of the following bacteria, except

- a. *E. coli*
- b. *Proteus*
- c. *Chlamydia trachomatis*
- d. *Trichomonas vaginalis*
- e. None of the above

15. The most severe streptococcal diseases are caused by

- a. Group B streptococci
- b. Group A streptococci
- c. Pneumococci
- d. Enterococci
- e. None of the above

16. **Streptococcus pyogenes** is most commonly identified by
- Widal test
 - Sedimentation rate
 - ASOT
 - CBC test
 - All of these
17. **Penicillin** is the drug of choice for
- Scarlet fever
 - Whooping cough
 - Brucellosis
 - Cholera
 - All of these
18. All of the following are correct about **Cholera toxin** except
- Heat labile toxin
 - Causes diarrhea
 - Similar in action to shiga toxin
 - Is virulent factor for *Vibrio cholera*
 - C is incorrect
19. The following characters are true about ***Pseudomonas aeruginosa*** except
- Opportunistic pathogen
 - Non-motile diplococci
 - Oxidase positive organisms
 - Air borne infection
 - Gram-negative, bacilli bacteria
20. The **bubo** of bubonic plague is a/an
- Ulcer where the flea bite occurred
 - Granuloma in the skin
 - Enlarged lymph node
 - Infected sebaceous gland
 - None of the above
21. All of the following are true about ***S. aureus*** except
- Typically produce coagulase
 - Lack spores
 - Can not produce food intoxication
 - Causing impetigo
 - Has exfoliative toxin
22. The probable habitat of ***Listeria*** is
- The human intestine
 - Animals
 - Soil and water
 - Plants
 - None of the above
23. Causative organism of moist gangrene is
- Bordetella pertussis*
 - Bordetella parapertussis*
 - C. tetani*
 - C. botulinum*
 - None of the above

24. Which of the following is not correct about *S. saprophyticus* ?

- a. Is a staphylo coccus bacteria
- b. Catalase positive
- c. Coagulase negative
- d. Novobiocin sensitive
- e. Causing UTI in young women .

25. All of the following about *S. agalactica* are correct except

- a. G. positive cocci
- b. B-hemolyticus staphylococcus
- c. Catalase negative
- d. Bacitracin resistant
- e. Commonly found orally

26. A classic symptom of pertussis is

- a. Labored breathing
- b. Paroxysmal coughing
- c. Convulsions
- d. Headache
- e. None of the above

27. Which of the following is not vector of rickettsioses?

- a. Mosquito
- b. Louse
- c. Tick
- d. Flea
- e. All of the above

28. Which of the following is incorrect about *B. anthracis*?

- a- Causing anthrax.
- b- Transferred cutaneously, inhalation, or by ingestion.
- c- Its virulence factors include a number of exotoxins and the capsule.
- d- Its toxin are edema Factor ,lethal Factor ,protective Antigen acts individually
- e- Diagonised by polychrome methylene blue

29. All of the following about *Haemophilus influenza* is correct except

- a- Non motile bacteria .
- b- G- negative bacillus
- c- The type b causing of meningitis in children
- d- The type b can cause otitis media .
- e- Ceftriaxone is the antibiotic of choice in treatment.

30. All of the following bacteria are lactose fermenter except ?

- a. Shigella
- b. Salmonella
- c. Yersina
- d. E.coli
- e. None of the above

31. Which of the following bacteria is related to *Rickettsia* ?

- a. V. cholera
- b. C.botulinum
- c. T.pallidum
- d. C.burenette
- e. C.trachoma

32. Which of the following disease does not need vector for infection ?

- a. Murine typhus
- b. Epidemic typhus
- c. Q. fever
- d. Plaque
- e. b and d

33. All of the following are correct about Mycobacterium tuberculosis except

- a. Acid fast bacteria
- b. Causing tuberculosis
- c. Diagnosed by skin testing of tuberculin
- d. Treated by INH & streptomycin
- e. None of the above

34. Ciprofloxacin is drug of choice for

- a. Rheumatic fever
- b. Aerobic spore former bacillus
- c. Mycoplasma
- d. Clostridium
- e. Bordetella pertussis

35. Which of the following bacteria act by Zn dependant protease ?

- a. Coxiella burnetii
- b. S. typhi
- c. C. tetani
- d. C. botulinum
- e. c and d

36. All of the following bacterial toxin act by increasing cAMP level except ?

- a. Anthrax toxin
- b. Cholera enterotoxin
- c. Pertussis toxin
- d. Bordetella pertussis adenylate cyclase toxin
- e. None of the above

37. All of the following bacteria causing meningitis except

- a. S. agalactiae
- b. N. meningitidis
- c. Listeria monocytogenes
- d. H. influenza
- e. None of the above

38. Which of the following bacteria produce chloramphenicol?

- a. Streptococcus pyogenes
- b. Streptomyces venezuela
- c. Streptomyces griseus
- d. Streptococcus mutans
- e. a and c

39. Which of the following bacteria produce green color on blood agar?

- a. S. epidermidis
- b. S. pneumoniae
- c. S. pyogenes
- d. S. viridans
- e. b and d

40. Each of the following agents is a recognized cause of diarrhea except

- Clostridium perfringens
- Vibrio cholerae
- Salmonella enteritidis
- Escherichia coli
- Clostridium difficile

41. All of the following are factors determining the outcome of infection except

- Route of entry
- The number of infectious bacteria
- Status of the host defense
- All of the above
- None of the above

42. Which of the following bacteria has one powerful virulence factor?

- Staphylococcus aureus
- Staphylococcus epidermidis
- Corynebacterium diphtheriae
- Clostridium tetani
- c and d

43. Innate defense include the following except

- Inflammation
- Phagocytosis
- Normal flora
- Vaccination
- Anatomical barriers

44. Which of the following is considered as naturally passive acquired immunity?

- Gamma globulin
- Antibodies are passed through placenta
- Following measles
- Vaccination
- None of the above

45. Lipoteichoic acid (LTA) is characterized for

- Gram negative bacteria
- E. coli
- N. meningitidis
- S. aureus
- None of the above

46. Rickettsias and chlamydias are similar in being

- free of a cell wall
- the cause of eye infections
- carried by arthropod vectors
- obligate intracellular bacteria
- None of the above

47. Which of the following about Klebsiella is incorrect?

- Non motile, oxidase negative
- Facultative anaerobic
- G-negative bacilli
- Has two antigen for endotoxin on cell surface
- Not respond to most antibiotic.

48. Which of the following about *Listeria monocytogenes* is incorrect ?

- a. Infect adult and infant
- b. Regular non acid fast
- c. G positive bacilli
- d. Its virulence factor is exotoxin
- e. b is correct

49. Ornithosis is infection associated with

- a. Rickettsial, parrots
- b. chlamydial, mice
- c. chlamydial, birds
- d. Rickettsial, flies
- e. None of the above

50. Which of the following is not an opportunistic enteric bacterium ?

- a. *E. coli*
- b. *Klebsiella*
- c. *Proteus*
- d. *Shigella*
- e. None of the above

Q2. TRUE OR FALSE AND CORRECT THE FALSE SENTENCES (10M)

1. Trachoma is considered as the first most common venereal disease. ()
2. No vaccine for *H. influenza* ()
3. Tetracycline is effective in treatment of rocky mountain spotted fever ()
4. Shiga toxin can not causing neurotoxic problems ()
5. Scalded skin syndrome is caused by *S. pyogenes*. ()
6. Shigellosis is better responded to antibiotic than salmonellosis ()
7. *Vibrio cholera* always infects human through its exotoxin. ()
8. Plaque is caused by G -ve non motile rods. ()
9. *Mycobacterium* is very small size bacteria that passed from filters. ()
10. A ligand is defined as abinding site on eukaryotic cell. ()
11. Glycocalyx may be involved in adherence. ()
12. Travellers diarrhea is caused by enteropathogenic toxin. ()
13. *Mycoplasma hominis* can metabolise glucose. ()
14. *L. pneumophila* is cultured on any medium easily. ()
15. Pertussigen is an exotoxin, that is the major cause of pertussis. ()
16. Ligoncers disease is less dangerous than Pontiac fever. ()
17. Normal flora prevent adherence of pathogenic bacteria. ()
18. O polysaccharide part helps in smoothness of exotoxin ()
19. Inactivated vaccine produced by killing bacteria or virus by formaldehyde ()
20. In an attenuated vaccine is safely used with cancer patients ()

Q3. ANSWER THE FOLLOWING QUESTIONS

(15M)

a) Complete the following space

(3M)

Penicillin produced by has activity on many of bacteria.
Nurate 4 bacteria

- 1.....2.....
3.....4.....

b) Mention about 4 Gram negative bacteria transmitted to human by inhalation **(2M)**

- 1.....2.....
3.....4.....

c) Mention about 6 bacteria affect on the gastrointestinal of infected human **(3M)**

- 1.....2.....
3.....4.....
5.....6.....

d) Case Report

A 4- year-old white girl , admitted for hospital running a fever 39°C ,runny nose, and headache . one jet-like vomit was reported by her parents. Through 24hours rapidly progressing of stiff neck. a Laboratory data revealed cloudy cerebrospinal fluid (CSF), CSF cultured on chocolate agar and showed G-negative bacteria

(7M)

a- Define this bacteria (by cascade)

b- Its virulance factor

c- Drug of choice for this bacteria

Part II .Parasitology

Q4) PLEASE CHOOSE THE BEST CORRECT ANSWER

(15 M)

1. Mebendazole can killed all of the following helminths except

- a. Ascaris lumbricoides
- b. Trichuris trichiura
- c. Strongyloids stercoralis
- d. Entrobilus vermicularis
- e. None of the above

2. All of the following infection can transmitted orally except

- a. Ascaris lumbricoides
- b. Trichuris trichiura
- c. Strongyloids stercoralis
- d. Entrobilus vermicularis
- e. None of the above

3. Triclabenazole is effective in treatment of infection by

- a. schistosoma mansoni
- b. Fasciola hepatica
- c. Fasciola buski
- d. Entrobilus vermicularis
- e. All of the above

4. Fasciola can infect humans by

- a. Cercaria
- b. Adult worm
- c. Cysticercus
- d. Metacercaria
- e. a and d

5. Tapeworm larval cyst (cysticercus) is infective form for which of the following

- a. schistosoma mansoni
- b. Fasciola hepatica
- c. Fasciola buski
- d. Tinea saginata
- e. All of the above

6. Which of the following trematoda are excreted in feaces ?

- a. Schistosoma mansoni
- b. Fasciola hepatica
- c. Schistosoma Japonicum
- d. Schistosoma hematobiumi
- e. a and c

7. Which of the following worms is not Nematoda ?

- a-Ascaris lumbricoides
- b-Trichuris trichiura
- c- pinworm
- d-Strongyloides stercoralis
- e- Fashiola hepatica

Which of the following is incorrect about *Ascaris lumbricoides* ?

- Large intestinal roundworm
- Eggs hatch in the upper small intestine.
- Eggs are destroyed by chemical disinfectant.
- Eggs survive for months in sewage, but are killed by heat.
- Cause cough, wheezing, dyspnea.

Which of the following is correct about whipworm ?

- Female is smaller than male
- Larva escapes the shell in the upper small intestine and penetrates the villus
- Larvae reach the ovipositing age in 7 days from infection
- Larvae live as long as 5 to 6 days.
- Larvae passed in feces, embryonate in moist soil within 2 to 3 months.

Which of the following is incorrect about *Enterobius vermicularis* ?

- Diagnosis is made by finding eggs in perianal area, particularly at night
- Infection occurs when adult worms are ingested from the environment
- Embryonic larvae hatch in duodenum & reach adolescence in jejunum & upper ileum.
- Male worms descend into lower ileum, cecum & colon, live there for 7 to 8 weeks.
- Gravid females, containing more than 10,000 eggs migrate, at night.

Which of the following is incorrect about Teniasis ?

- Caused by Cestoda
- *Cysticercus* is ingested with poorly cooked infected meat
- The adult may live in the small intestine as long as 25 years
- Proglottids pass with the feces.
- Eggs are consumed by cattle or pigs in which they hatch and form adult worm

Which of the following is incorrect about *Schistosoma mansoni* ?

- Man is infected by cercaria in fresh water by skin penetration.
- Cercariae travel through the venous circulation
- They mature and reach the mesenteric (*S. hematobium*) or the bladder (*S. mansoni*)
- Eggs germinate & are excreted in feces (*S. mansoni*) or urine (*S. hematobium*).
- Larval miracidium hatches out of egg & swims until it finds snail.

All of the following statements concerning *Ascaris lumbricoides* is incorrect except:

- One of the smallest nematode
- Can not cause pneumonia
- Transmitted by ingestion of cercaria
- Does not need intermediate host
- None of the above is correct

All of the following statements concerning cestodes is incorrect except:

- Called whipworm
- *T. saginata* is more smaller than *T. solium*
- *Cysticercus* is the pathogenic stage
- *Cysticercus* is ingested with poorly cooked infected meat
- The adult worm can not live in small intestine

Which scolex (pear shaped head) is characteristic for

- *Tenia saginata*
- *Fasciola hepatica*
- *Tenia solium*
- *Schistosoma hematobium*
- a and c

Q5. TRUE (T) OR FALSE (F) AND CORRECT THE FALSE

(5 M)

- 1- Ingestion of embryonated eggs can cause infection by whipworm. ()
- 2- Swimmer itching is characteristic for bilharziasis . ()
- 3- Shistosoma is called intestinal flukes . ()
- 4- S.hematobium diagnosed in urine of patient . ()
- 5- H.nana is called giant tape worm ()
- 6- Cysticercosis resulting from T.saginata ()
- 7- Itching in the perianal at night is characteristic for Trichuris trichura ()
- 8- Ivermectin is drug of choice for strongyloids stercoralis, . ()
- 9- Infection by Fasciola hepatica through consumption of contaminated chestnut . ()
- 10- Hepatomegaly is one of complication of Fasciola buski ()

Q6: X helminth cause skin itching when infect human , larva is the infective stage of this worm (5M)

a- What is X worm

b- Explain the life cycle of X (by cascade)

GOOD LUCK

BY MOHAMMED BUTTER TALES