



Department of Pathology
Azra Naheed Medical College
Half book Test, 25 August 2017
MBBS 3rd Year (MCQ)
(Microbiology)

Time Allowed: 30 min

Total Marks: 30

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Roll No: F16-029

Date: _____

Instructions:

1. All objective questions are to be attempted on the paper and returned to the invigilator within specified time after you have received the question paper.
2. Any cuttings or overwriting in answering the objective part will not be accepted and no marks will be given even if the answer is correct.

1. Bacterial pili may enhance virulence of bacterial pathogens by:
 - a. Transporting nutrients
 - b. Providing a means of attachment
 - c. Increasing the surface area of bacteria.
 - d. Being an endotoxin.
 - e. By acting as an exotoxin
2. Which of the following phases of growth curve would most likely be missing detectable growth, but having vigorous metabolic activity?
 - a. Lag phase
 - b. Log phase
 - c. Stationary phase
 - d. Death phase
 - e. Decline phase
3. The ability to use compounds and ions other than oxygen as terminal oxidants in respiration is a widespread trait used by facultative bacteria to grow in the absence of oxygen. This capacity is called as:
 - a. Photosynthesis
 - b. Fermentation
 - c. Anaerobic respiration
 - d. Substrate phosphorylation
 - e. Nitrogen fixation

- 8.
- 9.
- 1.
4. Extra chromosomal double stranded circular DNA molecules that are capable of replication independently of bacterial chromosomes and responsible for the transmitting bacterial resistance genes is:
- Mesosomes
 - Transposons
 - Nucleoids
 - Plasmids
 - Spores
5. Laboratory results of a clinical specimen from a patient with hospital-acquired pneumonia revealed the presence of methicillin-resistant *Staphylococcus aureus* (MRSA). Which of the following drugs is the best empiric treatment?
- Ceftazidime
 - Dicloxacillin
 - Penicillin
 - Tobramycin
 - Vancomycin
6. An outbreak occurs in community due to contaminated water supply. Patients came with nausea and vomiting as well as profuse diarrhea with abdominal cramps. Stools had rice water appearance. Curved comma shaped Gram negative rods were isolated. Which of the following is the selective media used for culturing it?
- Blood agar
 - TCBS agar (Thiosulfate-citrate-bile salt)
 - MacConkey agar
 - Chocolate agar
 - Thayer martin medium
7. Gram staining of urine sample of a patient suspected to have urinary tract infection revealed Gram negative rods. Which of the following structure is found in gram negative bacteria but not in gram positive bacteria?
- - Capsule
 - Cell wall
 - Cytoplasmic membrane
 - Ribosomes
 - Outer membrane

8. Name the non-invasive test for the diagnosis of *Helicobacter pylori*
- ELISA
 - ammonia breath test
 - Urease breath test
 - Culture & Sensitivity
 - Biopsy
9. Which of the following statement regarding the biochemical test for *Klebsiella* is incorrect?
- E. coli* is Indole positive
 - E. coli* is motile
 - Klebsiella* is citrate positive
 - Klebsiella* is motile & Indole positive
 - Klebsiella* is urease positive
10. Triple sugar iron agar (TSI) showing an alkaline slant/alkaline butt (Red/Red) appearance. Which is the most likely causative agent?
- Salmonella*
 - Shigella*
 - Pseudomonas*
 - Proteus*
 - E. coli*
11. A 7-year-old girl was well until about 3 weeks ago, when she began complaining of being "tired all the time." On exam, her temperature is 38°C and there is tenderness below the right knee. Hemoglobin: 10.2; WBC: 9600 with increased neutrophils. A sickle cell preparation shows a moderate sickling tendency. Gram-negative, non-lactose fermenting rods grew in the blood culture. Name the causative agent:
- Micrococcus*
 - Escherichia*
 - Pseudomonas*
 - Salmonella*
 - Streptococcus*
12. A 20-year-old man has a swollen, red, hot, tender ankle, accompanied by a temperature of 100°F for the past 2 days. There is no history of trauma. Gram-negative diplococci in joint fluid aspirate seen. Organism is oxidase-positive. Which of the following is the causative agent?
- Staphylococcus aureus*
 - Enterococcus*
 - Streptococcus pyogenes*
 - Neisseria gonorrhoeae*
 - Streptococcus epidermidis*

Solved By
Sana Ullah

13. Which of the following bacteria is the cause of dysentery and has same mechanism as the enterohemorrhagic strain of *E.coli*?
- a. *Shigella*
 - b. *Salmonella*
 - c. *Proteus*
 - d. *E.coli*
 - e. *Pseudomonas*
14. A patient is admitted to the hospital due to severe epigastric pain, indigestion, excess of gas production. Culture reveals a urease positive, gram negative, curved rod. Which of the following is a likely complication due to infection with the causative agent?
- a. Diarrhea
 - b. Kidney stones
 - c. Pseudomembranous colitis
 - d. Duodenal ulcer
 - e. Vomiting
15. Eight of 10 family practice residents who had a potluck 4 days ago now have diarrhea with abdominal cramps, general malaise, and fever ranging from 37.5C to 38.7c. Stools from 3 are blood tinged. Lab studies revealed the causative agent was a micro-aerophilic gram negative, curved rod with polar flagella often in pairs to give a seagull appearance. It grew on skirrow's media at 42 C. The original contamination was probably found in:
- a. Poultry
 - b. Improperly canned food
 - c. Fried rice
 - d. Fish
 - e. Vegetables
16. Which of the following is not a common characteristic of family enterobacteriaceae?
- a. All the members are Gram -ve Rods
 - b. All are Non-spore forming
 - c. All are Nitrate reducers
 - d. All are Oxidase +ve
 - e. All are lactose fermenters
17. The primary lesion of tuberculosis in lung "the Ghon complex" comprise of:
- a. Parenchymal exudative lesion in lung and draining hilar lymph nodes
 - b. Only parenchymal exudative lesion in lung
 - c. Hilar lymphadenopathy
 - d. Parenchymal exudative lesion in lymph nodes
 - e. Cervical lymphadenopathy and parenchymal exudative lesion in lung

18. Chlamydia trachomatis is a well-known cause of venereal disease. This organism is also implicated in which of the following?

- a. Blindness in neonates ✓
- b. Middle-ear infection in young children
- c. Perinatal retinitis
- d. Sexually transmitted cardiac disease in adults
- e. Urinary tract infection in children

19. A 25-year old male presents with a macula-papular rash on palms and soles. He gives history of developing a non-tender ulcer on the genital area 3 months back which healed spontaneously. Currently, the patient is suffering from:

- a. Primary syphilis
- b. Secondary syphilis ✓
- c. Early latent stage of syphilis
- d. Late latent stage of syphilis
- e. Tertiary syphilis

20. Delta (HDV) hepatitis only occurs in patients who also have either acute or chronic infection with hepatitis B virus. The delta agent is:

- a. An incomplete hepatitis B virus
- b. Related to hepatitis A virus
- c. A hepatitis B virus mutant
- d. A defective RNA virus ✓
- e. Hepatitis C virus mutant

21. A young boy was received in emergency department with history of fever, malaise, headache and cough. Along with that he had joint and muscle pains. On examination a macula-papular rash was observed on his body. His labs showed leucopenia, increased hematocrit and decreased platelet count. The most likely virus would be:

- A. Yellow fever virus
- B. Dengue virus ✓
- C. West Nile virus
- D. St. Louis encephalitis virus
- E. California encephalitis virus

22. A newer virus first detected in 1994 has genomic size of about 165 Kbp. This virus is said to be the cause of Kaposi's sarcoma and body cavity lymphomas. Identify this virus.

- a. Epstein Barr virus
- b. Human Herpes virus 6
- c. Human Herpes virus 7
- d. Human Herpes virus 8 ✓
- e. All of the above

23. A patient presented with non- bloody diarrhea, flatulence and abdominal pain. She gave history of drinking contaminated water. Stool examination showed cysts in faeces. The trophozoites of this organism are pear drop shaped or pear shaped with a sucking disc at its anterior end. The most likely organism is:
- Malariae falciparum
 - Hook worm
 - Giardia lamblia
 - Hymenolepsis nana
 - Taenia soilum
24. A patient taking anti malarial drugs irregularly for chronic falciparum malaria now presented with complain of dark or black colored urine. Black water fever was diagnosed. The dark color of the urine is because of:
- presence of malarial parasites in urine
 - hemolysis destroying affected parasitized RBCs and unaffected RBCs
 - Presence of proteins in urine
 - Excretion of the anti-malarial drugs in urine
 - Excretion of glucose
25. Abdominal ultrasound of a patient showed liver abscess. The pus was aspirated and examined which showed amoebic trophozoites. Which of the following is the characteristic of the liver abscess caused by amoebic dysentery?
- yellow colored pus containing dead bacteria
 - Chocolate colored pus containing red blood cells and dead liver cells
 - extensive necrosis
 - Pus containing only E.histolytica cysts
 - granulation tissue
26. An athlete went to Olympics experienced a superficial infection in his foot. Multiple papules surrounded by clear area of normal skin were observed by him. His was diagnosed to have athletes foot. Which pathogen is responsible for his lesion?
- Sporothrix schenckii*
 - Tinea versicolor*
 - Tinea nigra*
 - Dermatophytes/ Ringworm*
 - Staphylococcus aureus*
27. A 45 year old diabetic female is diagnosed with vulvovaginitis. When a smear is made, an oval shaped structure with a single bud is seen. Which of the following is the most likely organism?
- Coccidioides immitis*
 - Malassezia furfur*
 - Aspergillus fumigates*
 - Pneumocystis carinii*
 - Candida albicans*
28. An athlete complains of discoloration and thickening of skin on his foot. The lesions are red, circular, with a vesiculated border and a central healing area. The most appropriate laboratory procedure would be:

29. A
f
tl
a
b
c
d
e

30. A
v
ir

- a. Potassium hydroxide mount of skin scrapings
- b. Giemsa stain for multinucleated giant cells
- c. Fluorescent antibody stain of vesicle fluid
- d. Four fold rise in antibody titer against the organism
- e. Gram stain of skin smear

29. A chronic diabetic, experienced nephropathy and was admitted in intensive care unit for management. A fungus was isolated from the culture of his catheter tip, staining positively with Gram staining. Apart from that germ tube test was also positive. The causative agent is:

- a. *Cryptococcus neoformans*
- b. *Candida albicans*
- c. *Candida tropicalis*
- d. *Rhizopus*
- e. *Mucor*

30. A 60 year old immigrant from Argentina experiencing upper right quadrant abdominal pain, nausea, and vomiting. He is taken to emergency room in a nearby hospital by his wife. A CT-scan reveals a large mass in his liver. History reveals that the man has many pet dogs. What is the most likely diagnosis?

- b. *Taenia saginata*
- c. *Echinococcus granulosus*
- d. *Diphyllobothrium latum*
- e. Cysticercosis
- f. *Hymenolepis nana*