

生技系 微生物學期中考(II)考古題 (範圍：細菌各論+真菌)

1. Metachromatic granules are characteristically observed in properly stained smears of
 - A. *Salmonella* Typhi (沙門氏桿菌)
 - B. *E. coli*
 - C. *Corynebacterium diphtheriae* (白喉桿菌)
 - D. *Listeria monocytogenes* (李斯特菌)
2. Which of the followings is **NOT** involved in zoonotic infections?
 - A. *Listeria monocytogenes*
 - B. *Yersinia pestis* (鼠疫桿菌)
 - C. *Campylobacter jejuni* (空腸區狀桿菌)
 - D. *Helicobacter pylori* (幽門桿菌)
3. *Pseudomonas aeruginosa* (綠膿桿菌):
 - A. produces pyocyanin (藍色色素)
 - B. causes severe lung infections in healthy young adults
 - C. oxidase negative
 - D. All of the above are correct
4. Which of the followings contributes most to the acid tolerance of *Helicobacter pylori*?
 - A. lysin metabolism
 - B. urease
 - C. acid resistance proteins
 - D. the product of cytotoxin-associated gene A
5. What are the complications of *Campylobacter jejuni* infections?
 - A. cardiac arrhythmia (心律不整)
 - B. disorder of peripheral never system
 - C. both A and B
 - D. Neither A nor B
6. An old fisherman (aged 70 year-old) whose foot was recently stripped by a fishhook (魚鉤). After 24 hours, some bullae (水泡) appeared on his skin and felt painful with fever. He was soon diagnosed as cellulitis (蜂窩性組織炎). Which of the following bacteria may be the etiologic pathogen (病原菌)?
(A) *Vibrio cholera* (B) *E. coli* (C) *Vibrio vulnificus* (D) *Salmonella typhi*
7. Which of the following bacterium is **NOT** commonly occurred in nosocomial infection?
 - (A) *Legionella pneumophila*
 - (B) *Acinetobacter baumannii*
 - (C) *Vibrio parahaemolyticus*
 - (D) *Pseudomonas aeruginosa*
8. An 60-years farmer with diabetes who was drowned in floods (水災) after a serious typhoon. After 3-days, he was died from septicemia (敗血症). A Gram-negative bacterium with glucose-nonfermenter (葡萄糖不發酵細菌) was isolated in blood culture. Which organism may be the etiologic pathogen?
 - (A) *Vibrio cholera*
 - (B) *Burkholderia pseudomallei*
 - (C) *Vibrio parahaemolyticus*
 - (D) *Legionella pneumophila*
9. Most humans become infected with *Legionella pneumophila* by:
 - (A) Tick exposure
 - (B) A water source
 - (C) Direct contact with another person who is infected
 - (D) Mosquito exposure
10. Which of the following bacteria have a mycolic acid-rich cell wall structure?
 - (A) *Staphylococcus aureus*
 - (B) *E. coli*
 - (C) *Listeria monocytogenes*
 - (D) *Mycobacterium tuberculosis*
11. Which one is not the rapid growing nontuberculous *Mycobacteria*?
 - (A) *M. avium*
 - (B) *M. fortuitum*
 - (C) *M. chelonae*
 - (D) *M. abscessus*

12. Leprosy (caused by *Mycobacterium leprae*) has two forms: tuberculoid form and lepromatous form. Which of the following description for the lepromatous form is not correct?

- (A) also called Multibacillary Hansen disease
- (B) Symptoms: milder symptom and hypopigmented skin macules
- (C) Host have strong antibody response but defect in the cellular response for *M. leprae*
- (D) is the most infectious form of leprosy

13. *Mycobacterium tuberculosis* is cultured on (A) Brain-heart infusion agar (B) Mueller hinton agar (C) Lowenstein-Jesen agar (LJ agar) (D) Mannitol salt agar

14. Which one is transmitted primary by sexual contact? (A) *T. pallidum* subspecies *endemicum* (B) *T. pallidum* subspecies *pallidum* (C) *T. pallidum* subspecies *pertenue* (D) *T. carateum*

15. Which of the following description for treponemal tests is not correct?

- (A) Fluorescent treponemal antibody-absorption (FTA-ABS) test is a treponemal test
- (B) Antigen: cardiolipin
- (C) Treponema pallidum particle agglutination (TP-PA) test is the most common used treponemal test
- (D) All of above are correct

16. Which of the following description for Lyme disease is not correct?

- (A) Sexually transmitted diseases
- (B) *Borrelia burgdorferi* is the pathogen
- (C) Arthritis is a common syndrome for Lyme disease
- (D) Erythema migrans is the syndrome in the early localized infection stage

17. Epidemic relapsing fever is transmitted by (A) Flea (B) soft tick (C) hard tick (D) body louse

18. Which description for *Leptospira* is not correct?

- (A) Human is an incidental host
- (B) Optimal growth temperature is 37°C
- (C) Obligate aerobes
- (D) Rodents are natural reservoirs

19. Which of the following description for *Chlamydia trachomatis* is not correct?

- (A) Obligate intracellular pathogen
- (B) Transmitted primary by sexual contact
- (C) have a rigid cell wall structure
- (D) Leading cause of preventable blindness

20. Which of the following bacteria form a fire-egg morphology colony (as showed in the figure)?

- (A) *Mycoplasma pneumoniae*
- (B) *Mycoplasma hominis*
- (C) *Orientia tsutsugamushi*
- (D) *Coxiella burnetii*



21. Which of the following antibiotic is a narrow spectrum drug that specifically using for treating anaerobic bacteria?

- (A) Vancomycin
- (B) Isoniazid
- (C) Clindamycin
- (D) Metronidazole

22. Which of the following description for botulinum toxin is not true?

- (A) Foodborne botulism is most associated with consumption of home-canned foods
- (B) 4 antigenically botulinum toxins (A, B, E, and F) are associated with human disease
- (C) Cause symptoms like risus sardonicus (瘁笑) and persistent back spasms
- (D) Exotoxin

23. Which of the following structure can frequently be seen in the abscesses caused by Actinomyces?

- (A) Morulae
- (B) Inclusion body
- (C) Sulfur granules
- (D) Muriform cells

24. Which of the following anaerobic Gram-negative bacteria is commonly associated with intraabdominal and genital infections?

- (A) *Peptostreptococcus*
- (B) *Bacterioides fragilis*
- (C) *Fusobacterium*
- (D) *Eubacterium*

25. Which of the following description for *Nocardia* is correct?

- (A) Catalase negative
- (B) Aerial hyphae
- (C) Acid fast stain negative
- (D) All of above

Mycology:

- Which of the following description for polyenes (anti-fungal drug) is correct?
(A) binds to ergosterol and causes cell membrane damage (B) Amphotericin B and flucytosine are the polyene drugs (C) inhibit cell wall synthesis (D) Ketoconazole is a polyene drug
- Which of the following description for primary fungal pathogens is not correct?
(A) Dimorphic fungi (B) Ascomycota (C) Transmitted by eating contaminated food (D) *Blastomyces dermatitidis* is a primary fungal pathogen
- Which of the following description for *Candida albicans* is not correct?
(A) Normal flora (B) Yeastlike fungi (C) important pathogen to cause CNS infection (D) form hyphae and pseudohyphae structure
- As shown in the figure (India ink staining), which of the following description is not correct?
(A) (I) is the fungal cell
(B) (II) is the capsule structure
(C) important method to identify *Candida glabrata* infection
(D) No hyphae and pseudohyphae structure can be found in this figure
- Which one is an important hyaline molds pathogen and has the coenocytic hyphae (hyphae with no septum structure)?
(A) *Rhizopus arrhizus* (B) *Aspergillus fumigatus* (C) *Fusarium* spp (D) *Penicillium marneffei*
- Which one is not the cutaneous mycose?
(A) *Trichophyton* spp (B) *Trichosporon* spp (C) *Epidermophyton* spp (D) *Microsporum* spp
- As shown in the figure, which one has the multicellular, thick- and rough-wall conidial spore?
(A) *Trichophyton rubrum*
(B) *Aspergillus fumigates*
(C) *Sporothrix schenckii*
(D) *Microsporum canis*
- Which is an important fungal pathogen to cause Athlete's Foot (香港腳)?
(A) *Candida albicans* (B) *Trichophyton rubrum* (C) *Microsporum canis* (D) Non of above
- Lymphocutaneous sporotrichosis is caused by
(A) *Piedraia hortae* (B) *Malassezia furfur* (C) *Sporothrix schenckii* (D) *Cryptococcus neoformans*
- Which description for Ochratoxin is correct?
(A) Person to person transmission (B) Carcinogen for liver cancer (C) Nephrotoxin (D) Optimum temperature for its biosynthesis is 37°C

