

UNIVERSITI SAINS MALAYSIA

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PROGRAM SARJANA FARMASI
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FCP 553:PHARMACOTHERAPEUTIC III

(3 HOURS)

This examination consists of **two sections.**

Section A consists of 100 multiple choice questions

Section B consists of **two (2)** long questions

Answer **ALL** questions

Answers to section A must be entered into the scripts provided

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SECTION (A)

1. Which of the following is not a risk factor to urinary infections ?
 - (a) Urethral stenosis
 - (b) Nephrolithiasis
 - (c) Gentamicin ototoxicity
 - (d) Bladder catheterization

2. Which of the following symptom is less likely to occur in uncomplicated lower urinary tract infections ?
 - (a) Fever
 - (b) Flank pain
 - (c) Urinary urgency
 - (d) Dysuria

3. Which of the following statement is true ?
 - (a) Single dose antibiotic therapy would be adequate in pregnant women with asymptomatic bacteriuria.
 - (b) At least 80 percent of women aged 65 and above have asymptomatic bacteriuria.
 - (c) Acute urethral syndrome is an indication for single dose antibiotic therapy.
 - (d) All elderly male with asymptomatic bacteriuria should be treated with broad spectrum antibiotic.

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4. Which of the following condition is an indication for long term suppressive antibiotic therapy ?
- (a) A pregnant women with asymptomatic bacteriuria.
 - (b) Patients with 3 or more urinary tract infections in a year.
 - (c) Patients with chronic in-dwelling bladder catheters.
 - (d) All women aged 65 and above with asymptomatic bacteriuria.
5. Which of the following is not a characteristic of acute urethral syndrome ?
- (a) Pyuria of less than 5 wbc/ml. urine
 - (b) Bacteruria of more than 10^5 organisms.
 - (c) Most common in the women aged 65 or above.
 - (d) E. Coli is the most common organism/ml.
6. Which of the following statements is true about rheumatoid arthritis (RA)?
- (a) It is an acute disease of the joints.
 - (b) It is more commonly found in females than in males.
 - (c) Aspirin is no longer used because of the many side effects.
 - (d) It is easily differentiated from septic arthritis because in the latter, white blood cell count is elevated.

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7. Which of the following statements is false?

- (a) Naproxen is more potent than aspirin as a treatment for acutely inflamed joints.
- (b) Extra-articular manifestations of RA may include weight loss and parasthesias of hand and foot.
- (c) Bed rest is generally discouraged during the acute inflammatory phase of RA.
- (d) Its incidence increases with age after adult life.

8. Which of the following is not a criteria for the diagnosis of RA?

- (a) Morning stiffness.
- (b) Involvement of three or more joints.
- (c) Leukocytosis.
- (d) Positive serum rheumatoid factor.

9. Which of the following statements is true?

- (a) RA is the most common cause of subacute polyarthritis.
- (b) The knee is the most commonly afflicted joint in RA.
- (c) Joint involvement in RA is never asymmetrical
- (d) Fever is a common accompaniment of RA.

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10. Which of the following statements is false?

- (a) Anemia is the most common hematologic involvement in RA.
- (b) Erythrocyte sedimentation rate is elevated in RA but not in osteoarthritis.
- (c) Sensory deficit may occur in patients with RA.
- (d) White blood cell count may be elevated in the synovial fluid in RA.

11. Which of the following is not a characteristic of juvenile RA?

- (a) There occurs systemic manifestations.
- (b) Joint involvement is polyarticular.
- (c) It is a chronic disease.
- (d) Its diagnosis is restricted to children under 12 years.

12. Which of the following statements is false?

- (a) About 10% of patients with RA undergoes spontaneous remission.
- (b) About 10% of patients with RA ends up with crippling disabilities.
- (c) Renal failure is a common cause of death in patients with RA.
- (d) RA generally does not affect life expectancy among its sufferers.

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13. Which of the following statements is true ?

- (a) Subcutaneous nodules are the most specific extra-articular finding in RA.
- (b) Involvement of more than four joints occur in the majority of patients with RA.
- (c) Joint stiffness is non-specific and is not a useful indicator of RA activity.
- (d) The wrist joints involved early in RA.

14. Which of the following hematologic involvement is not usually found in RA?

- (a) An increase in platelet count.
- (b) A reduced hematocrit.
- (c) Pancytopenia.
- (d) The white blood cell count is frequently elevated.

15. Which of the following statements is true?

- (a) RA is difficult to be differentiated from gouty arthritis because both usually involve multiple joints.
- (b) In gout, the weight-bearing joints are most commonly affected.
- (c) A positive rheumatoid factor is common in RA.
- (d) Gout can occur even in the absence of hyperuricemia.

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16. Which of the following statements is true?

- (a) Paracetamol is frequently indicated in RA.
- (b) Aspirin is the mainstay in the treatment of RA.
- (c) Nonsteroidal antiinflammatory agents should be introduced early in RA to improve outcome.
- (d) Steroid are used in RA as disease modifying agents.

17. Which of the following statements is true?

- (a) Buffered aspirin can be used to reduce gastrointestinal distress associated with the use of aspirin.
- (b) Aspirin is drug of choice in the treatment of gout.
- (c) Maximum daily dose of aspirin is 100mg per day.
- (d) Dose of aspirin does not require adjustment in renal failure.

18. Which of the following statements is false?

- (a) Naproxen is a propionic acid derivative.
- (b) Naproxen has fewer adverse effect than aspirin.
- (c) Dose of naproxen does not require adjustment in patient with liver disease.
- (d) Naproxen is contraindicated in children.

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19. Which of the following statements is false?

- (a) High dose steroid therapy is generally required in RA.
- (b) Low dose steroid has been shown to be ineffective in RA.
- (c) The use of antacid may diminish the gastrointestinal adverse effects of steroid.
- (d) None of the above.

20. Which of the following statements is true?

- (a) Quinine is used to alter the rate of destruction of joints in RA.
- (b) High dose steroid is frequently used as a therapeutic bridge between aspirin and slow-acting disease modifying drug.
- (c) Methylprednisolone may be useful to treat life-threatening complications of RA.
- (d) A common complication of steroid use is headache.

21. Which of the following statements is true?

- (a) Indomethacin causes more central nervous system adverse effects than aspirin.
- (b) Indomethacin causes less gastrointestinal distress than aspirin.
- (c) Indomethacin does not have an analgesic property
- (d) The usual starting dose of indomethacin to treat RA is 100mg tds.

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22. Which of the following statements is true?

- (a) Hydrochloroquin is an example of disease modifying drug used in RA.
- (b) Low-dose aspirin increases uric acid elimination in the kidney but high-dose aspirin reduces uric acid elimination.
- (c) Aspirin is contraindicated in children less than 12 years.
- (d) Aspirin is not used together in RA because of the additive gastrointestinal adverse effects.

23. Which of the following statements is true?

- (a) Grip strength in patients with RA is improved by aspirin but morning stiffness is not.
- (b) Methotrexate is usually used together with gold salt in the treatment of RA.
- (c) A suitable drug to use in septic arthritis that may complicate RA is oral ampicillin.
- (d) Septic arthritis that complicates RA is not an indication for admission of patient to the hospital.

24. Which of the following is not a complication of bacterial peritonitis ?

- (a) Paralytic ileus
- (b) Residual Abscesses
- (c) Encephalopathy
- (d) Acute intestinal obstruction

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25. Which of the following aerobes is the least likely to be involved in secondary bacterial peritonitis ?
- (a) Escherichia coli
 - (b) Staphylococcus
 - (c) Proteus
 - (d) Klebsiella
26. Which of the following is not a feature of inflammatory bowel disease ?
- (a) Idiopathic
 - (b) Chronicity
 - (c) Extra-intestinal involvement
 - (d) Therapy is curative
27. Which of the following is/are characteristic(s) of ulcerative colitis ?
- (i) Inflammation may extend beyond the submucosa layer
 - (ii) Patchy area of inflammation are normally seen.
 - (iii) Transmural ulcers are frequent
 - (iv) Mucosal layer of colon and rectum are usually involved.

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- (a) (i) & (iii) only
- (b) (ii) & (iv) only
- (c) (i), (ii) & (iii) only
- (d) (iv) only

28. Anemia developed in patient with ulcerative colitis may be the result of....

- (i) hemorrhage
- (ii) hemolysis
- (iii) iron deficiency
- (iv) folic acid deficiency

- (a) (i) & (iii) only
- (b) (ii) & (iv) only
- (c) (i), (ii) & (iii) only
- (d) (iv) only

29. Chronic diarrhea in patient with ulcerative colitis are usually the result of....

- (i) decreased colonic absorption of water and electrolytes
- (ii) secondary bacterial infection
- (iii) diminished colonic segmental contractions
- (iv) sulfasalazine therapy

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- (a) (i) & (iii) only
- (b) (ii) & (iv) only
- (c) (i), (ii) & (iii) only
- (d) (iv) only

30. Which of the following statements describe the advantages of steroid therapy in ulcerative colitis ?

- (i) It is curative
- (ii) It alters the underlying disease process
- (iii) Efficacy of oral steroids is not affected in severe ulcerative colitis
- (iv) Topical steroid is effective in the management of mild ulcerative colitis limited to the distal colon and rectum.

- (a) (i) & (iii) only
- (b) (ii) & (iv) only
- (c) (i), (ii) & (iii) only
- (d) (iv) only

31. Which of these is/are possible complication(s) of peptic ulcer disease ?

- (a) Perforation
- (b) Hemorrhage
- (c) Obstruction
- (d) All of the above

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32. Which of the following have been implicated as causing peptic ulcer disease ?

- (a) Hereditary
- (b) Smoking
- (c) Corticosteroids
- (d) All of the above

33. Which of the following is/are true about the effect of smoking on peptic ulcer disease ?

- (i) It increases the risk of developing peptic ulcer disease.
 - (ii) It delays ulcer healing
 - (iii) It increases the risk and rapidity of relapse of peptic ulcer disease
 - (iv) It accelerates the emptying of stomach acid into the duodenum
-
- (a) (i) & (iii) only
 - (b) (ii) & (iv) only
 - (c) (i), (ii) & (iii) only
 - (d) (i), (ii), (iii) & (iv)

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34. Which of the following is/are possible reasons for gastric ulcer development by NSAIDs ?

- (i) It causes gastric irritation when taken on an empty stomach
- (ii) It allows back-diffusion of hydrogen ions into the mucosa
- (iii) It inhibit the synthesis of prostaglandins
- (iv) It produces local vasoconstriction, ischemia, and breakdown of mucosal protective barrier

- (a) (i) & (iii) only
- (b) (ii) & (iv) only
- (c) (i), (ii) & (iii) only
- (d) (iv) only

35. Which of the following pairs of drugs used for Cushing's syndrome and its major side effect is true ?

- (a) Mitotane - gastrointestinal disturbances
- (b) Metyrapone - renal toxicity
- (c) Cyproheptadine - hepatotoxicity
- (d) Trilostane - central nervous system effects.

36. Sucralfate is known

- (a) to cause agranulocytosis
- (b) to induce cholestatic jaundice
- (c) to induce gynecomastia
- (d) to be a cytoprotective agent

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37. A potential problem with tricyclic antidepressant is...
- (a) headache
 - (b) cardiotoxicity
 - (c) rebound hyperacidity
 - (d) milk-alkali syndrome
38. In pituitary-dependent hypercortisolism the treatment of choice is.....
- (a) surgery
 - (b) radiation
 - (c) mitotane
 - (d) aminoglutethimide.
39. The mechanism of action for antacid in inducing peptic ulcer disease include....
- (a) neutralization of gastric acid
 - (b) increasing the gastric pH and inhibit pepsin activity
 - (c) strengthen the gastric mucosal barrier possibly by prostaglandin generation
 - (d) all of the above

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40. The following side-effect(s) may develop if intravenous cimetidine is administered rapidly.

- (a) Mental confusion
- (b) Bradycardia
- (c) Blood dyscrasias
- (d) All of the above

41. The following is/are accepted when misoprostol is compared with H₂-receptor antagonists.

- (a) No significant difference in ulcer healing
- (b) Misoprostol is more effective than cimetidine
- (c) Misoprostol is less effective than cimetidine
- (d) None of the above

42. Which of the following drugs may induce abortion if not used cautiously.

- (a) Cimetidine
- (b) Omeprazole
- (c) Misoprostol
- (d) Antacids

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43. All of the following antibiotics may be useful in treating infections caused by *Bacteroides fragilis* except...
- (a) Clindamycin
 - (b) Metronidazole
 - (c) Cefoxitin
 - (d) Cefotaxime
44. Patients with severe ulcerative colitis are best treated with.....for inducing remission.
- (a) sulfasalazine
 - (b) sulfapyridine
 - (c) 5-aminosalicylic acid
 - (d) prednisone
45. The physiological defects associated with duodenal ulcer disease are
- (i) increased capacity to secrete gastric acid
 - (ii) decreased pyloric pressure at rest and in response to acid or fat in the duodenum
 - (iii) increased parietal cell responsiveness to gastrin
 - (iv) deficient mucosal resistance, direct mucosal injury or both

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- (a) (i) and (iii) only
 - (b) (ii) and (iv) only
 - (c) (i), (ii) and (iii) only
 - (d) (iv) only
46. Guidelines on antimicrobial prophylaxis in surgery need not consider....
- (a) timing of antimicrobial administration
 - (b) duration of antimicrobial regimen
 - (c) route of antimicrobial administration
 - (d) none of the above
47. Antimicrobials used in surgical prophylaxis should be administered....
- (a) intravenously
 - (b) intramuscularly
 - (c) orally
 - (d) any of the above
48. Feature(s) of a clean-contaminated wound includes....
- (a) major breaks in techniques
 - (b) entry into respiratory, alimentary, or genitourinary tracts under controlled conditions and without significant spillage
 - (c) presence of acute purulent inflammation
 - (d) all of the above

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49. Which of the following penicillins is the drug of choice for staphylococcus aureus?

- (a) Amoxicillin.
- (b) Bacampicillin.
- (c) Dicloxacillin.
- (d) Ticarcillin.

50. *Pseudomonas aeruginosa* is most susceptible to.....

- (a) Amoxicillin.
- (b) Bacampicillin.
- (c) Dicloxacillin.
- (d) Ticarcillin.

51. Which of the following penicillins undergoes biotransformation in the gut to be active ?

- (a) Amoxicillin.
- (b) Bacampicillin.
- (c) Dicloxacillin.
- (d) Ticarcillin.

52. Which of the following penicillins has the poorest bioavailability problem if administered orally ?

- (a) Penicillin G.
- (b) Penicillin V.
- (c) Ampicillin.
- (d) Amoxicillin.

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53. Which of the following penicillins has greater penetration into the bacterial cell wall and affinity to penicillin-binding proteins?

- (a) Penicillin G.
- (b) Cloxacillin.
- (c) Ticarcillin.
- (d) Piperacillin.

54. Which of the following penicillins has been shown to be synergistic against pseudomonas when combined with amikacin?

- (a) Penicillin G.
- (b) Amoxicillin.
- (c) Cloxacillin.
- (d) Ticarcillin.

55. Which of the following penicillins is most commonly associated with maculopapular rash ?

- (a) Penicillin G.
- (b) Ampicillin.
- (c) Cloxacillin.
- (d) Ticarcillin.

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56. Electrolyte disturbance is most commonly linked to.....
- (a) Penicillin G.
 - (b) Ampicillin.
 - (c) Carbenicillin.
 - (d) Piperacillin.
57. Interstitial nephritis is most associated with.....
- (a) Ampicillin.
 - (b) Penicillin G.
 - (c) Methicillin.
 - (d) Piperacillin.
58. Which of the following penicillin is the least active against beta-lactamase producing staphylococcus ?
- (a) Cloxacillin.
 - (b) Piperacillin.
 - (c) Nafcillin.
 - (d) Penicillin G.
59. Which of the following cephalosporins is most associated with bleeding disorders ?
- (a) Cefoperazone.
 - (b) Cefamandole.
 - (c) Cefotaxime.
 - (d) Moxalactam.

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60. All of the following cephalosporins possess a methythio-tetrazole side chain in the beta-lactam ring except.....
- (a) cefoperazone.
 - (b) cefamandole.
 - (c) cefotaxime.
 - (d) moxalactam.
61. Which of the following cephalosporins is extensively metabolised in the liver ?
- (a) Cefoperazone.
 - (b) Cefamandole.
 - (c) Cefotaxime.
 - (d) Moxalactam.
62. The most effective cephalosporin for infection involving pseudomonas aeruginosa is.....
- (a) Cefaclor.
 - (b) Cefuroxime.
 - (c) Cefotaxime.
 - (d) Ceftazidime.

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63. Which of the following antibiotics provides the widest coverage of antimicrobial activity ?
- (a) Piperacillin.
 - (b) Imipenem.
 - (c) Vancomycin.
 - (d) Amikacin.
64. Ototoxicity is most associated with the use of.....
- (a) Cefoperazone.
 - (b) Vancomycin.
 - (c) Piperacillin.
 - (d) Erythromycin.
65. Infection involving MRSA is best treated with.....
- (a) Cloxacillin.
 - (b) Vancomycin.
 - (c) Piperacillin.
 - (d) Erythromycin.
66. Cartilage deformities in pediatrics can be induced by.....
- (a) Ciprofloxacin.
 - (b) Vancomycin.
 - (c) Cefoperazone.
 - (d) Amikacin.

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67. An alternative in HUSM for neonatal sepsis not responding to piperacillin and netilmicin is.....
- (a) Ciprofloxacin.
 - (b) Vancomycin.
 - (c) Imipenem.
 - (d) Ceftazidime.
68. Which of the following statement regarding prostatitis is not true ?
- (a) It may be presented as acute or chronic infections.
 - (b) It occurs in about 4 - 5 % in adult male.
 - (c) It may have few or no organisms in the urine.
 - (d) Response to antibiotic therapy is excellent.
69. What is/are the possible cause(s) if the urine is not sterilized within 48 hours after instituted antibiotic therapy?
- (a) Bacterial resistance
 - (b) Urinary obstruction
 - (c) Papillary necrosis
 - (d) All of the above

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70. Which of the following statements is true regarding recurrent UTI?
- (a) Antibiotic prophylaxis before or after intercourse may decrease the frequency of re-infection.
 - (b) Relapse may occur immediately after completion of antibiotic therapy.
 - (c) Single high dose antibiotic therapy is appropriate in relapse cases.
 - (d) Similar antibiotic used in treating acute infection could be instituted in each episode of re-infection.
71. Which of the following statements is true ?
- (a) Trimethoprim 100mg alone is as effective as single strength trimethoprim 40 mg-sulfamethoxazole 200mg on the fecal-perineal flora.
 - (b) Nitrofurantoin 50 - 100 mg show little effect on the fecal-perineal flora.
 - (c) The use of nalidixic acid may lead to rapid selection of resistance strains.
 - (d) All of the above.
72. Which of the following statement regarding the treatment of prostatitis is true ?
- (a) Bactrim^R showed a cure rate of 32-71 % in chronic prostatitis.
 - (b) Although erythromycin level is high in the prostate, its activity against gram negative bacilli is lacking.
 - (c) Most antibiotic diffuse well into the acutely inflamed prostate.
 - (d) All of the above.

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73. What is the counselling role of pharmacist in patients with urinary tract infection ?
- (a) Advice on the fluid intake.
 - (b) Suggest an appropriate urinary analgesics.
 - (c) Advice on the risk of hyperkalemia in using potassium citrate mixture as urinary antiseptic.
 - (d) All of the above.
74. Which of the following is not a risk factor to upper respiratory infection (URTI) ?
- (a) Increased mucus production.
 - (b) Chronic immunosuppressive therapy
 - (c) Oxygen toxicity
 - (d) Chronic inhaler therapy
75. Which of the following condition is indicated for antibiotic therapy ?
- (a) Acute otitis media with perforated ear drums in a 4 year old girl.
 - (b) Complaints of sore throat, slight fever, and sneezing in a 45 year old hypertensive male.
 - (c) Recurrent 'cold' in a 50 year old male.
 - (d) Complaints of nasal discharge, malaise, and headache in 35 year old female.

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76. Which of the following statement regarding antibiotic therapy in upper respiratory tract infection (URTI) is true?
- (a) Antibiotic therapy is indicated in conditions in which bacteria may be responsible for super-infections in a primarily non-bacterial illness such as chronic asthmatic.
 - (b) Amoxicillin has greater advantage over penicillin in the treatment of URTIs.
 - (c) The newer antibiotics should replace the old penicillin groups for a better antibiotic coverage.
 - (d) Ampicillin is the drug of choice in patients complaining of fever associated with sore throat.
77. What is the counselling role of pharmacist in patients with upper respiratory tract infection ?
- (a) Advice on the fluid intake.
 - (b) Suggest an appropriate cough and cold remedies.
 - (c) Advice on the use of megadoses of vitamin C.
 - (d) All of the above.
78. Which of the following drugs is not useful in the treatment of acute gouty asthritis ?
- (a) Colchicine
 - (b) Probenecid
 - (c) Indomethacin
 - (d) Phenylbutazone

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79. Which of the following drug-side effect combinations is true ?
- (a) Colchicine - dizziness
 - (b) Allopurinol - peptic ulceration
 - (c) Indomethacin - headache
 - (d) Phenylbutazone - rash
80. Which of the following non-steroidal anti-inflammatory agents (NSAID) dose need to be adjusted in patients with a creatinine clearance of 25 ml/min ?
- (a) Sulindac
 - (b) Naprosyn
 - (c) Piroxicam
 - (d) Phenylbutazone
81. Which of the following NSAIDs has a minimal effect on the blood pressure ?
- (a) Indomethacin
 - (b) Sulindac
 - (c) Piroxicam
 - (d) Ibuprofen

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82. Which of following drugs combinations showed a low risk for pharmacokinetic interaction ?
- (a) Ibuprofen - lithium
 - (b) Indomethacin - methotrexate
 - (c) Sulindac - lithium
 - (d) Diclofenac - zidovudine
83. How much of the tuberculin is usually used in the routine screening of tuberculosis ?
- (a) 1 tuberculin unit (TU)
 - (b) 5 TU
 - (c) 100 TU
 - (d) 250 TU
84. Which of the following could cause a false negative result in the tuberculin skin test ?
- (i) Severe tuberculosis
 - (ii) Corticosteroid therapy
 - (iii) Vaccination with live virus
 - (iv) Previous BCG vaccination.

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- (a) (i) and (iii) only
- (b) (ii) and (iv) only
- (c) (i), (ii) and (iii) only
- (d) (iv) only.

85. Which of the antitubercular is able to exert its effect on the slow growing bacilli found in the solid caseous materials ?

- (a) Rifampicin
- (c) Streptomycin
- (c) Pyrazinamide
- (d) Ethambutol

86. The 'flu-syndrome' is an adverse effect of.....

- (a) Rifampicin
- (b) Streptomycin
- (c) Pyrazinamide
- (d) Ethambutol.

87. Four (4) months of the short course chemotherapy had been shown to produce a cure rate as high as.....

- (a) 40 percent
- (b) 55 percent
- (c) 70 percent
- (d) 90 percent.

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88. Diarrhea can be defined as stool water content exceeding....
- (a) 100 ml/24 hours
 - (b) 200 ml/24 hours
 - (c) 300 ml/24 hours
 - (d) 500 ml/24 hours.
89. The recommended agent for treatment of diarrhea due to *Entamoeba Histolytica* is
- (a) tetracycline
 - (b) ampicillin
 - (c) metronidazole
 - (d) quinacrine.
90. The presence of glucose in the oral rehydration solution (ORS) is important because it.....
- (a) reduces the abdominal cramp
 - (b) facilitates electrolytes transport across the intestinal mucosa
 - (c) acts as an adsorbent
 - (d) absorbs excess water in the bowel.
91. Which of the following laxatives is preferred for long term prevention of straining during defecation?
- (a) Magnesium sulphate
 - (b) Mineral oil
 - (c) Polycarbophil
 - (d) Danthron.

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92. The proposed antiemetic mechanism of phenothiazines action is that it
- (a) block dopaminergic receptors in the chemoreceptor trigger zone (CTZ), decreasing input to the vomiting center
 - (b) coordinate gastric motility, decreasing gastrointestinal input
 - (c) decrease cortical input to the CTZ
 - (d) decrease vestibular input to the vomiting center.
93. Which of the phenothiazine antiemetics has the lowest sedation effect?
- (a) Perphenazine
 - (b) chlorpromazine
 - (c) thiethylperazine
 - (d) prochlorperazine.
94. Which of the following statements concerning thyroid hormones is not true ?
- (a) The free fraction of the circulating hormone is the metabolically active portion
 - (b) Most circulating triiodothyronine (T3) comes from peripheral deiodination
 - (c) A greater percentage of thyroxine (T4) is available in the blood in free form compared to T3.
 - (d) T3 is metabolically more active than T4.

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95. Propranolol is useful in the management of hyperthyroidism. It acts by which of the following mechanisms ?
- (i) It inhibits the peripheral conversion of T4 to T3
 - (ii) It blocks the organification of thyroid hormone in the thyroid gland
 - (iii) It blocks the peripheral action of thyroid hormone
 - (iv) It blocks the release of thyroid hormones from the thyroid gland.
- (a) (i) and (iii) only
- (b) (ii) and (iv) only
- (c) (i), (ii) and (iii) only
- (d) (iv) only.
96. Which of the following drug does not impair the peripheral conversion of T4 to T3 ?
- (a) Phenytoin
 - (b) Amiodarone
 - (c) High dose glucocorticoid
 - (d) Iodine contrast media.
97. Estrogen-containing drugs will produce all these changes in thyroid function tests except.....
- (a) increased thyroid stimulating hormone (TSH)
 - (b) decreased resin T3 uptake (RT3U)
 - (c) increased total T4
 - (d) increased plasma total binding globulin concentration.

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98. Which of the following is generally recommended for the treatment of hypothyroidism ?
- (a) Liotrix
 - (b) Dessicated thyroid
 - (c) Liothyronine
 - (d) Levothyroxine.
99. The treatment of choice for a hyperthyroid patient with cardiac problems is.....
- (a) propylthiouracil
 - (b) radioactive iodine
 - (c) surgery
 - (d) iodides.
100. Which of the following dosing schedule should be followed for patients receiving 30mg hydrocortisone replacement therapy ?
- (a) 20 mg morning, 10mg late afternoon
 - (b) 10 mg morning, 20 mg late afternoon
 - (c) 15 mg morning, 15 mg late afternoon
 - (d) 15 mg morning, 15 mg at bedtime.

...35/-

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SECTION (B)

Question 1

A 15 year old male was admitted to Hospital USM for the following complaints :

- 1) Gradually increasing joint stiffness.
- 2) Fever - high grade.
- 3) Chest pain.

The mother reported that her son first complained of joint pain and joint stiffness about 3 months prior to admission. This became worse and the patient stopped going to school about two weeks prior to admission. Two days prior to admission the patient started to have spiking fever and complained of chest pain.

On examination the patient was noted to be pale and in pain. Blood pressure was 100/80 mm Hg, pulse 100 beat/minute.

Temperature was noted to be 38.5°C.

CVS examination reveal a pericardial rub but there was no murmur noted.

- (A) List the criteria for the diagnosis of Rheumatoid Arthritis (RA).

(3 Marks)

- (B) List three laboratory examinations you would suggest for this patient.

(2 Marks)

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- (C) Discuss why septic arthritis becomes more common in patients with RA.

(5 Marks)

- (D) Discuss your goals and therapeutic plans for this patient.

(10 Marks)

- (E) What are the suitable monitoring parameters that you would suggest to monitor therapy you chose in (D) above?

(5 Marks)

Question 2

A 17 year old girl was referred from a district hospital for appendicitis. On the night prior to admission, she developed colicky generalised abdominal pain and massage was done. The pain persist and aggravated by walking. The patient vomited once on admission. Her vital signs were normal except she has a temperature of 38.5 and a pulse rate of 120/min.

Appendectomy was planned immediately. The satellite pharmacy was called to provide antimicrobial surgical prophylaxis ordered.

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- (A) What is your opinion about her chances of developing infectious complications following appendectomy ?

(4 marks)

- (B) What benefit could she derive from antimicrobial surgical prophylaxis ?

(3 marks)

- (C) If wound infection were to occur following appendectomy, what would be the likely organism(s) cultured ?

(3 marks)

- (D) When would be the best time to initiate the antimicrobial surgical prophylaxis in her and how long should it be continued ?

(5 marks)

- (E) Discuss on the choice of antimicrobial prophylaxis in both uncomplicated and complicated appendicitis.

(6 marks)

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- (F) What is your opinion on the use of third generation cephalosporins as one of the antimicrobial prophylaxis regime in appendectomy?

(4 marks)

Appendix

Normal Laboratory Values

| | | | | |
|-----|--|------------------|----|---------------------------------|
| 1. | Ammonia | 80-110 mcg/dl | or | 47-65 umol/L |
| 2. | Amilase | 4-25 IU/ml | | |
| 3. | Billirubin | | | |
| - | Direct | 0-0.2 mg/dl | | 0-3 umol/L |
| - | Indirect | 0.2-0.8 mg/dl | | 30-14 umol/L |
| - | Total | 0.2-1 mg/dl | | 30-17 umol/L |
| 4. | CO ₂ | 20-30 mEq/L | | 24-30 mMol/L |
| 5. | pCO ₂ | 35-45 mmHg | | |
| 6. | Cl | 100-106 mEq/L | | 100-106 mMol/L |
| 7. | Cpk | 50-170 U/L | | |
| 8. | Creatinine (SCr) | 0.6-1.5 mg/dl | | 60-130 umol/L |
| 9. | Random blood sugar | 70-110 mg/dl | | 3-10 umol/L |
| 10. | Iron | 50-150 mcg/dl | | 9.0-26.9 umol/L |
| 11. | Lactic dehydrogenase | 70-210 IU/L | | |
| 12. | Magnesium | 1.5-2.0 mEq/L | | 0.8-1.3 mMol/L |
| 13. | PO ₂ | 75-100 mmHg | | |
| 14. | pH | 7.35-7.45 | | |
| 15. | Acid phosphatase | | | |
| | Male | 0.13-0.63 IU/ml | | 36-176 nmol s ⁻¹ /L |
| | Female | 0.101-0.65 IU/ml | | 2.8-156 nmol s ⁻¹ /L |
| 16. | Alkaline phosphatase | 39-117 IU/L | | |
| 17. | Phosphorous | 3.0-4.5 mg/dl | | 1.0-1.5 mMol/L |
| 18. | Potassium (K ⁺) | 3.5-5.0 mEq/L | | 3.5-5.0 mMol/L |
| 19. | Calcium (Ca ²⁺) | 8.5-10.5 mg/dl | | 2.1-2.6 mMol/L |
| 20. | Sodium (Na ⁺) | 135-145 mEq/L | | 135-145 mMol/L |
| 21. | Bicarbonate (HCO ₃ ⁻) | 24-38 mEq/L | | 24-28 mMol/L |

| | | | |
|------|-----------------------------|---|--|
| 22. | Protein | | |
| - | Total | 6.0-8.5 g/dl | 60-85 g/L |
| - | Albumin | 3.5-5.0 g/dl | 35-50 g/L |
| - | Globulin | 2.3-3.5 g/dl | 23-35 g/L |
| - | Transferrin | 200-400 mg/dl | 2.0-9.0 g/L |
| 23. | Transaminase (SGOT) | 0-40 IU/L | 0-0.32 $\mu\text{mol s}^{-1}/\text{L}$ |
| 24. | BUN | 8-25 mg/dl | 2.9-8.9 mMol/L |
| 25. | Uric Acid | 3-7 mg/dl | 0.18-0.42 mMol/L |
| 26. | Blood Pictures | | |
| | Red blood cell (RBC) | | |
| | Male | 4.8-6.4 x 10 ⁶ /mm ³ | |
| | Female | 4.2-5.4 x 10 ⁶ /mm ³ | |
| | White blood cell (WBC) | 4.0-11.0 x 10 ³ /mm ³ | |
| | P | 60-75% | |
| | L | 20-40% | |
| | M | 4-8% | |
| | B | 0-1% | |
| | E | 1-3% | |
| | Platelite (Plt) | 200-400 x 10 ³ /mm ³ | |
| 27. | ESR | | |
| | Male | 0-10 mm/jam (Wintrobe) | |
| | Female | 0-15 mm/jam (Wintrobe) | |
| 28. | Hematocrit | | |
| | Male | 45-52% | |
| | Female | 37-48% | |
| 29. | Hemoglobine (Hgb) | | |
| | Male | 13-18 g/dl | |
| | Female | 12-16 g/dl | |
| 30., | Prothrombin time (PT) | 75-100% nilai asas | |
| 31. | APTT | 25-37 saat | |
| 32. | Creatinine Clearance (CrCl) | 105-150 ml/min/1.73 m ² | |
| 33. | TT ₄ | 3.0-7.5 mcg/dl | |
| 34. | RT ₃ U | 25-35% | |
| 35. | FTI | 1.3-4.2 | |

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NORMAL HEMODYNAMIC VALUES AND DERIVED INDICES

| Normal Value Units | | | |
|--------------------|--|-----------|----------------------------|
| BP S/D/M | Blood Pressure Systolic/Diastolic/Mean | 120/80/93 | mm Hg |
| CO | Cardiac Output | 4-6 | Liters/min. |
| RAP | Right Atrial Pressure (Mean) | 2-6 | mm Hg |
| PAP S/D/M | Pulmonary Artery Pressure Systolic/Diastolic/Mean | 25/12/16 | mm Hg |
| PCWP | Pulmonary Capillary Wedge Pressure (mean) | 5-12 | mm Hg |
| CI | Cardiac Index | 2.5-3.5 | Liters/min/m ² |
| | $CI = \frac{CO}{\text{Body Surface Area}}$ | | |
| SV | Stroke Volume | 60 - 80 | ml/beat |
| | $SV = \frac{CO}{\text{Heart Rate}}$ | | |
| SVI | Stroke Volume Index | 30 - 50 | ml/beat/m ² |
| | $SVI = \frac{SVI}{\text{Body Surface Area}}$ | | |
| PVR | Pulmonary Vascular Resistance | < 200 | dynes.sec.cm ⁻⁵ |
| | $PVR = \frac{MPAP - PCWP}{CO} \times 80$ | | |
| TPVR | Total Peripheral Vascular Resistance | 900-1400 | dynes.sec.cm ⁻⁵ |
| | $TPVR = \frac{MBP - RAP}{CO} \times 80$ | | |
| LVSWI | Left Ventricular Stroke Work Index | 35-80 | gm-m/m ² /beat |
| | $LVSWI = (MBP - PCWP) (SVI) (.0136)$ | | |