

UNIVERSITI SAINS MALAYSIA

**PEPERIKSAAN PERTAMA
PROGRAM SARJANA FARMASI
SEMESTER I 1992/93**

16 NOVEMBER 1992

FCP 553:PHARMCOTHERAPEUTICS 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

...2/-

INDEX NUMBER: _____

SECTION (A)

1. Which of the following do(es) not predispose patients to urinary infections?

- (i) nephrolithiasis
- (ii) urethral stenosis
- (iii) in-dwelling bladder catheters
- (iv) gentamicin ototoxicity

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

2. Which of the following allow(s) for a reliable distinction between upper and uncomplicated lower urinary tract infections?

- (i) Dysuria
- (ii) Fever
- (iii) Urinary frequency
- (iv) Flank pain

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

INDEX NUMBER: _____

3. Which of the following statements is/are true?

- (i) Asymptomatic bacteriuria should routinely be treated with antibiotics
- (ii) The incidence of asymptomatic bacteriuria is equal in males and females
- (iii) At least 80 percent of women aged 65 and above have asymptomatic bacteriuria
- (iv) Treatment of asymptomatic bacteriuria in the elderly is of little or no benefit.

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

4. In which of the following conditions would single dose antibiotic therapy be usually adequate?

- (i) a pregnant women with asymptomatic bacteriuria
- (ii) acute urethral syndrome
- (iii) asymptomatic bacteriuria in a catheterized patient
- (iv) acute, uncomplicated urinary tract infections.

- (a) (i) and (iii) only
- (b) (ii) and (iv) only

INDEX NUMBER: _____

..... (c) (i), (ii) and (iii) only

..... (d) (iv) only.

5. Which of the following do(es) not predispose patients to upper respiratory infection?

(i) chronic immunosuppressive therapy.

(ii) assisted ventilation

(iii) chronic smoking

(iv) β -blocker overdose

..... (a) (i) and (iii) only

..... (b) (ii) and (iv) only

..... (c) (i), (ii) and (iii) only

..... (d) (iv) only.

6. Which of the following conditions is/are indication(s) for antibiotic therapy?

(i) Complaints of nasal discharge, sneezing, and sore throat in a 45 year-old male

(ii) 'Itchy' throat and fever for 5 days in a 6 year-old boy

(iii) Recurrent nasal sinusitis in a 40 year-old female

(iv) Bilateral acute otitis media with perforated ear drums in a 6 year-old girl.

..... (a) (i) and (iii) only

INDEX NUMBER: _____

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

7. Which of the following statements is/are true?

- (i) 40% of viral pathogens of upper respiratory tract infections in adults are not identified
- (ii) Sinusitis is more common in children compared to adults
- (iii) Group A beta-hemolytic streptococcus is the main cause of tonsillitis in children
- (iv) Mycoplasma pneumoniae is the major finding in chronic otitis media.

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

8. Which of the following individuals would not be at risk for an attack of gout?

- (a) An 18 year-old treated for acute leukemia
- (b) A 54 year-old woman receiving hydrochlorothiazide for hypertension
- (c) A 29 year-old patient on a high-protein diet
- (d) A neurotic, 45 year-old housewife taking 6 to 8

INDEX NUMBER: _____

aspirin daily for recurrent headaches.

9. Which of the following disorders is/are associated with hyperuricemia and gout?

- (i) Psoriasis
- (ii) Obesity
- (iii) Congestive heart failure
- (iv) Cushing's syndrome

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

10. Which of the following statements is/are true regarding asymptomatic hyperuricemia?

- (i) The risk for gouty arthritis is greater in elderly patients
- (ii) Antihyperuricemic therapy is usually not indicated if the serum urate concentration remains below 500 $\mu\text{mol/L}$
- (iii) A strong family history of severe gout, persistent hyperuricemia and a single kidney are indications for therapy
- (iv) Probenecid is the drug of choice in patients with a history of uric acid stones and in patients over

INDEX NUMBER: _____

producing uric acid.

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

11. Which of the following is/are risk factor(s) for adverse gastrointestinal symptoms in NSAID exposed patients?

- (i) Age
- (ii) Duration of treatment
- (iii) Concomitant therapy with prednisolone
- (iv) Sex

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

12. Which of the following is usually the cause of spontaneous peritonitis in a child with nephrosis?

- (a) Escherichia coli
- (b) Anaerobic bacteria
- (c) Streptococcus pneumoniae
- (d) Enterococci.

INDEX NUMBER: _____

13. Which of the following is the most likely port of entry in patient with fever, leukocytosis and a positive blood cultures for *Bacteroides fragilis* ?

- (a) intravenous line
- (b) pulmonary infection
- (c) intra-abdominal sepsis
- (d) contaminant.

14. Which of the following regimens has poor activity against enterococci?

- (a) Penicillin plus amikacin
- (b) Penicillin, clindamycin plus gentamicin
- (c) Ampicillin plus gentamicin
- (d) Cefoxitin plus gentamicin.

15. Which of the following has poor activity against infections involving *Bacteroides fragilis*?

- (a) Clindamycin
- (b) Metronidazole
- (c) Cefoxitin
- (d) Cefamandole.

16. Which of the following organisms would not be expected

INDEX NUMBER: _____

in an intra-abdominal abscess?

- (a) Clostridia
- (b) Peptostreptococci
- (c) Klebsiella
- (d) Staphylococcus aureus.

17. Which of the following is/are characteristic(s) of extra-intestinal manifestations of inflammatory bowel diseases ?

- (i) Arthritis/arthralgia
- (ii) Abnormal liver function test
- (iii) Ankylosing spondylitis
- (iv) Agranulocytosis

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

18. Which of the following constitute(s) the major different between ulcerative colitis and Crohn's disease?

- (i) pathophysiology
- (ii) anatomic distribution
- (iii) clinical course

INDEX NUMBER: _____

(iv) extra-intestinal manifestations

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

19. Which of the following features is/are linked to ulcerative colitis?

- (i) Inflammation may involve any portion of the gastro intestinal tract and is patchy in nature
- (ii) Inflammation usually involves the mucosal layer of the colon and rectum
- (iii) Inflammation is characteristically transmural with deep ulceration, adhesions and fistula formation
- (iv) Inflammation does not extend beyond the submucosa layer.

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

20. Which of the following is the agent of choice for inducing remission in a patient with severe ulcerative colitis ?

INDEX NUMBER: _____

- (a) prednisone
- (b) 5-aminosalicylic acid
- (c) sulfasalazine
- (d) sulfapyridine.

21. Which of the following statements is/are not true regarding peptic ulcer disease?

- (a) Duodenal ulcer is the commonest type
- (b) Age group commonly affected by duodenal ulcer ranges from 20 and 50 years.
- (c) Women are affected twice as commonly as men
- (d) None of the above.

22. Which of the following is not true regarding the effects of cigarette smoking in peptic ulcer disease?

- (a) It delays ulcer healing
- (b) It increases risk and rapidity of relapse
- (c) It decreases emptying of stomach acid into the duodenum
- (d) It decreases biliary and pancreatic bicarbonate secretion.

23. Which of the following does not increase the risk for peptic ulcer disease?

INDEX NUMBER: _____

- (a) bronchial asthma
- (b) rheumatoid arthritis
- (c) alcoholic cirrhosis
- (d) hyperparathyroidism.

24. Which of the following is/are not treatment objective(s) for peptic ulcer disease ?

- (i) Relief of pain and other ulcer symptoms
- (ii) Promotion of healing
- (iii) Prevention of complication and ulcer relapse
- (iv) Teaching the patient about the disease to improve therapeutic compliance

- (a) (i) and (iii) only
- (b) (ii) and (iv) only
- (c) (i), (ii) and (iii) only
- (d) All of the above.

25. Which of the following is/are not actions of antacids in gastric ulcer disease?

- (i) inhibition of pepsin activity
- (ii) strengthening of gastric mucosal barrier probably through prostaglandin generation
- (iii) neutralising gastric acid

INDEX NUMBER: _____

(iv) stimulation of bicarbonate secretion.

- (a) (i) and (iii) only
- (b) (ii) and (iv) only
- (c) (i), (ii) and (iii) only
- (d) All of the above.

26. Which of the following is/are risk factor(s) for penicillin nephrotoxicity?

- (i) Liver disease
- (ii) Renal disease
- (iii) Concurrent erythromycin
- (iv) Concurrent probenecid.

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

27. Which of the following penicillins are effective against penicillinase producing Staphylococcus aureus?

- (i) ampicillin
- (ii) nafcillin
- (iii) amoxycillin
- (iv) methicillin

INDEX NUMBER: _____

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

28. Which of the following statement(s) is/are true regarding the use of antipseudomonal penicillin with aminoglycosides?

- (i) it provides synergistic effect against pseudomonas
- (ii) it increases the risk of nephrotoxicity
- (iii) it increases hydrolysis of penicillin by penicillinase
- (iv) induces penicillinase production by aminoglycoside.

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

29. Which of the following laboratory tests is/are the best indicator(s) for Methicillin Resistant Staphylococcus aureus (MRSA)?

- (i) Growth of organisms resistant to all antibiotics
- (ii) Growth of Staphylococcus aureus resistant to cloxacillin

INDEX NUMBER: _____

(iii) Growth of Staphylococcus aureus resistant to all antipseudomonal penicillins

(iv) Growth of Staphylococcus aureus resistant to methicillin group penicillins.

..... (a) (i) and (ii) only

..... (b) (i), (ii) and (iii) only

..... (c) (i), (ii), (iii) and (iv)

..... (d) (ii) and (iv) only.

30. Which of the following statements is/are true regarding the coagulation problems associated with cephalosporins?

(i) they are more common in renal failure

(ii) they are more common with cephalosporins with methylthiotetrazole side chain

(iii) they can be reduced by vitamin K supplements

(iv) they are aggravated by concurrent use of aspirin.

..... (a) (i) and (ii) only

..... (b) (i), (ii) and (iii) only

..... (c) (i), (ii), (iii) and (iv)

..... (d) (ii) and (iv) only.

31. Which of the following cephalosporins induce(s) disulfiram-like reaction when taken together with a cough syrup?

INDEX NUMBER: _____

- (i) cefotaxime
- (ii) cefoperazone
- (iii) ceftriaxone
- (iv) moxalactam.

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

32. Which of the following drugs achieve therapeutic CSF concentration?

- (i) cefazolin
- (ii) ceftazidime
- (iii) cephalothin
- (iv) ceftriaxone

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

33. Which of the following mediate(s) resistance with cephalosporins?

INDEX NUMBER: _____

- (i) mutation
- (ii) β -lactamase production
- (iii) increased production of cell wall.
- (iv) alteration of outer membrane permeability

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

34. Which of the following statements is/are true regarding chloramphenicol disposition?

- (i) It distributes throughout the whole body
- (ii) Penetration across inflamed blood brain barrier is excellent
- (iii) It has a high protein binding (90%)
- (iv) It is stored in fatty tissues.

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

35. Which of the following is/are true regarding adverse reaction to chloramphenicol?

INDEX NUMBER: _____

- (i) Aplastic anemia occurs only in genetically predisposed patients
- (ii) Close monitoring of blood levels can prevent aplastic anemia
- (iii) The gray baby syndrome is associated with the chloramphenicol induced aplastic anemia
- (iv) Prolonged use increases the risk of hematological side effects.

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

36. Which of the following is/are sensitive to chloramphenicol?

- (i) gm (+)-ve aerobic organisms
- (ii) gm (+)-ve anaerobic organisms
- (iii) salmonella species
- (iv) rickettsiae.

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

INDEX NUMBER: _____

37. Which of the following is/are sensitive to vancomycin?

- (i) staphylococcus including penicillinase producing staphylococci
- (ii) clostridium species including Clostridium difficile
- (iii) Pseudomonas aeruginosa
- (iv) Klebsiella species including Klebsiella pneumonia.

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

38. Which of the following statements is/are true regarding adverse reactions of vancomycin?

- (i) The hepatotoxicity is dose related
- (ii) The red neck syndrome is related to the rate of infusion
- (iii) The ototoxicity is associated with trough level
- (iv) The nephrotoxicity is reversible.

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

INDEX NUMBER: _____

39. Which of the following statements is/are true regarding vancomycin?

- (i) IV Vancomycin should be given as a bolus
- (ii) IV Vancomycin is ineffective against Clostridium difficile
- (iii) Oral absorption is excellent
- (iv) The oral route is the route of choice for antibiotic induced pseudomembranous colitis.

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

40. Which of the following statements is/are true regarding trimethoprim/sulfamethoxazole (TMP/SMX) preparations?

- (i) The presentation is in a form of a fixed ratio of 1:5 (TMP/SMX)
- (ii) The syrup contains 40 TMP and 200 SMX in each 5 ml
- (iii) The tablet contains 400 SMX and 80 TMP
- (iv) The parenteral preparation contains 400 SMX and 80 TMP in each 5 ml.

- (a) (i) and (ii) only
- (b) (i), (ii) and (iii) only

INDEX NUMBER: _____

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

41. Which of the following is/are indication(s) for Trimethoprim/Sulfamethoxazole?

- (i) prophylaxis against Pneumocystis carinii pneumonia in immunocompromised patient
- (ii) community acquired urinary tract infections
- (iii) urinary tract infections caused by pseudomonas
- (iv) as single dose drug therapy for chronic urinary tract infection in a female patient.

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

42. Which of the following findings is/are found in primary adrenal insufficiency but not in secondary adrenal insufficiency?

- (i) Fatigue
- (ii) Hyperkalaemia
- (iii) Hyponatremia
- (iv) Hyperpigmentation.

...22/-

INDEX NUMBER: _____

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

43. Which of the following laboratory tests differentiate(s) primary from secondary adrenal insufficiency?

- (i) ACTH infusion test
- (ii) Plasma ACTH level
- (iii) Metyrapone test
- (iv) Casyntopin test

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

44. Which of the following pairs of drug used for Cushing's syndrome and the major adverse effect is/are true?

- (i) Metyrapone - hepatotoxicity
- (ii) Aminoglutethimide - central nervous system effects
- (iii) Cyproheptadine - nephrotoxicity
- (iv) Mitotane - gastrointestinal effects

INDEX NUMBER: _____

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

45. Which of the following is the primary definitive therapy for the various forms of Cushing's syndrome?

- (a) pharmacological
- (b) chemotherapy
- (c) radiation
- (d) surgical.

46. Which of the following should not be given to patients with invasive enterocolitis?

- (i) Kaolin with pectin
- (ii) Atropine
- (iii) Oral rehydration solution
- (iv) Diphenoxylate

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

47. Which of the following laxatives cause(s) abdominal

INDEX NUMBER: _____

distention and flatulence?

- (i) Glycerin
- (ii) Cascara
- (iii) Docusate
- (iv) Polycarbophil

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

48. Which of the following classes of anti emetics is/are not useful in chemotherapy-induced vomiting?

- (i) Phenothiazine
- (ii) Butyrophenones
- (iii) Corticosteroid
- (iv) Antihistamine

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

49. Which of the following anti tubercular drugs is/are effective for the slow growing intercellular mycobacterium?

INDEX NUMBER: _____

- (i) Streptomycin
- (ii) Isoniazid
- (iii) Rifampicin
- (iv) Pyrazinamide.

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

50. Which of the following is the regimen of choice for pulmonary tuberculosis in a pregnant lady?

- (a) Streptomycin(S), Isoniazid (H), Rifampicin (R) X 2/12 and followed by H,R X 7/12
- (b) Ethambutol (E), H,R X 2/12 followed by H.R X 7/12
- (c) Pyrazinamide (Z), H,R X 2/12 followed by H.R X 4/12
- (d) SHRZ X 2/12 followed by H.R X 6/12.

51. Which of the following pairs of anti tubercular drug-major adverse effect is/are true?

- (i) Isoniazid- peripheral neuropathy
- (ii) Ethambutol- optic neuritis
- (iii) Pyrazinamide- hyperuricemia

INDEX NUMBER: _____

(iv) Rifampicin- arthralgias

..... (a) (i) and (iii) only

..... (b) (ii) and (iv) only

..... (c) (i), (ii) and (iii) only

..... (d) (iv) only.

52. Whom among the following require(s) preventive therapy with isoniazid?

(i) Newly infected persons

(ii) Household members of newly diagnosed patients

(iii) Positive reactors to tuberculin skin test

(iv) Individuals with progressive (active) tuberculosis.

..... (a) (i) and (iii) only

..... (b) (ii) and (iv) only

..... (c) (i), (ii) and (iii) only

..... (d) (iv) only.

53. Which of the following thyroid function tests is/are altered by estrogen-containing drugs?

(i) Plasma TBG concentration

(ii) Total T₄

(iii) T₃U, resin

(iv) TSH

INDEX NUMBER: _____

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

54. Which of the following is/are mechanism(s) for drug interference of thyroid function tests?

- (i) inhibiting synthesis of thyroid hormone in the thyroid gland
- (ii) altering peripheral thyroid hormone metabolism
- (iii) affecting concentration of the binding proteins in serum
- (iv) interfering with activity of thyroid hormone on cells.

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

55. Which of the following is/are the mechanism(s) of action of propylthiouracil in thyrotoxicosis?

- (i) It blocks the release of thyroid hormones from thyroid gland
- (ii) It blocks the organification of thyroid hormone in the thyroid gland
- (iii) It blocks the peripheral action of thyroid hormone

INDEX NUMBER: _____

(iv) It inhibits the peripheral conversion of T₄ to T₃.

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

56. Which of the following is/are the adverse effect(s) of thioamides used in thyrotoxicosis?

- (i) Asthma
- (ii) Maculopapular skin rashes
- (iii) Congestive heart failure
- (iv) Agranulosis

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

57. Which of the following is/are reasons for failure of chemoprophylaxis against malaria?

- (i) non-compliance
- (ii) the need to take at least two different anti malaria drugs
- (iii) the presence of chloroquine-resistant Plasmodium

INDEX NUMBER: _____

falciparum

(iv) the presence of multiple drug resistance of strains of Plasmodium falciparum.

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

58. Which of the following is/are mode(s) of transmission of malaria?

- (i) bites of infected Aedes mosquitoes
- (ii) blood transfusion
- (iii) contaminated syringes or needles
- (iv) congenital transmission.

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

59. Which of the following statements is/are true?

- (i) Chloroquine is relatively safe in pregnancy but for the risk of middle ear deafness during the first trimester
- (ii) Primaquine can give rise to acute massive hemolysis in

INDEX NUMBER: _____

G6PD deficient children

(iii) Artemester can be used to treat chloroquine resistant Plasmodium falciparum infections

(iv) Fansidar is contraindicated in infants and pregnant mothers.

..... (a) (i) and (iii) only

..... (b) (ii) and (iv) only

..... (c) (i), (ii) and (iii) only

..... (d) (iv) only.

60. Which of the following result(s) in a failure to culture or detect a suspected pathogen?

(i) incorrect diagnosis

(ii) antibiotic therapy prior to specimen collection

(iii) delayed transport of specimens

(iv) improper culture methods.

..... (a) (i) and (iii) only

..... (b) (ii) and (iv) only

..... (c) (i), (ii) and (iii) only

..... (d) (iv) only.

61. Which of the following laboratory tests is/are useful as aid(s) in antimicrobial therapy?

INDEX NUMBER: _____

- (i) Disc diffusion test
- (ii) Minimum inhibitory concentration
- (iii) serum bactericidal test
- (iv) assay of antibiotic concentration in blood or other body fluids.

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

62. Which of the following is/are mechanism(s) of antimicrobial resistance?

- (i) The production of enzymes that destroy the active drug.
- (ii) The change of permeability to the drug
- (iii) The development of an altered structural target for the drug
- (iv) The development of an altered metabolic pathway that bypass the reaction inhibited by the drug.

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

63. Which of the following is/are essential for the prevention and control of bacterial resistance to antibiotic

INDEX NUMBER: _____

hospitals?

- (i) Rational use of antibiotic
- (ii) Good hospital hygiene and nursing practice
- (iii) Isolation facilities for infected patients
- (iv) Availability of expert advice on infectious disease.

..... (a) (i) and (iii) only

..... (b) (ii) and (iv) only

..... (c) (i), (ii) and (iii) only

..... (d) (iv) only.

64. Which of the following is/are true regarding bile acids and bile salts?

- (i) They are produced by the liver
- (ii) Cholic acid is referred to as primary bile acids
- (iii) Primary bile acids are produced in the gut
- (iv) Primary bile acids are synthesised from cholesterol.

..... (a) (i) and (iii) only

..... (b) (ii) and (iv) only

..... (c) (i), (ii) and (iii) only

..... (d) (i), (ii), (iii) and (iv).

65. Which of the following is/are true regarding gallstones?

INDEX NUMBER: _____

- (i) the majority are radio-opaque
- (ii) cholesterol stones are usually black
- (iii) they are known to cause cancer of colon
- (iv) the pigmented types are found in chronic hemolytic states

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

66. Which of the following is/are factors causing gallstone formation?

- (i) high serum cholesterol
- (ii) infections
- (iii) stasis of bile
- (iv) cancer of gallbladder

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

67. In which of the following conditions can pigmented gallstone be seen?

INDEX NUMBER: _____

- (i) Thalassemia
- (ii) Stricture of the common bile ducts
- (iii) Hereditary spherocytosis
- (iv) Ascaris infestation of biliary tree

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

68. Which of the following is/are complications of gallstones?

- (i) Acute cholecystitis
- (ii) Mococele of gallbladder
- (iii) Carcinoma of gallbladder
- (iv) Cholangitis.

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

69. Which of the following is/are true regarding acute cholecystitis?

- (i) the majority is caused by cancer

INDEX NUMBER: _____

- (ii) the associated pain is mainly at right hypo-chondrium
- (iii) male is commonly affected
- (iv) Salmonella typhi may be isolated from the gallbladder.

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

70. Which of the following is/are treatment(s) for acute cholecystitis?

- (i) antibiotics
- (ii) bed rest
- (iii) analgesics
- (iv) fluids and fat-free diet

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

71. Which of the following are feature(s) of pancreatitis?

- (i) Epigastric pain
- (ii) Anorexia and vomiting
- (iii) Absent bowel sound
- (iv) Peri-umbilical bruises (Cullen sign).

INDEX NUMBER: _____

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

72. Which of the following is/are features of acute pancreatitis?

- (i) low serum amylase (1000 IU/l)
- (ii) fever
- (iii) high serum calcium
- (iv) 'sentinal loop' sign seen on a plain abdominal x-ray.

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

73. Which of the following findings are associated with good prognostic features in acute pancreatitis?

- (i) high blood sugar
- (ii) high serum amylase (1200 IU/L)
- (iii) increased serum bilirubin
- (iv) normal liver function test.

INDEX NUMBER: _____

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

74. Which of the following is/are treatment(s) of acute pancreatitis?

- (i) oral feeding
- (ii) analgesia
- (iii) emergency surgery for all cases
- (iv) peritoneal lavage if indicated

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

75. Which of the following is/are complication(s) of acute pancreatitis?

- (i) hypotension
- (ii) hypocalcemia
- (iii) infection
- (iv) pseudo cyst.

- (a) (i) and (iii) only
- (b) (ii) and (iv) only

INDEX NUMBER: _____

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

76. Which of the following condition is/are cause(s) of chronic pancreatitis?

- (i) alcohol
- (ii) cancer of pancreas
- (iii) acute pancreatitis - recurrent
- (iv) idiopathic.

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

77. Which of the following is/are clinical features of chronic pancreatitis?

- (i) epigastric pain
- (ii) weight loss
- (iii) diabetes mellitus
- (iv) malabsorption

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

INDEX NUMBER: _____

..... (d) (i), (ii), (iii) and (iv).

78. Which of the following is/are true in chronic pancreatitis?

- (i) serum amylase may be normal
- (ii) epigastric pain is uncommon
- (iii) plain abdominal x-ray shows calcification
- (iv) weight loss is not a common feature.

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

79. Which of the following is/are associated with hepatocellular failure?

- (i) anesthetic drugs
- (ii) gastro-intestinal bleeding
- (iii) inter current infection
- (iv) narcotics.

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

INDEX NUMBER: _____

80. Which of the following is/are clinical features of hepatocellular failure?

- (i) Jaundice
- (ii) Ascites
- (iii) Loss of axillary and pubic hairs
- (iv) Fetor hepaticus

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

81. Which of the following is/are treatment(s) of hepatocellular failure?

- (i) Blood transfusion
- (ii) Antibiotics for infections
- (iii) Avoidance of morphine
- (iv) High protein diet.

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

INDEX NUMBER: _____

82. Which of the following is/are treatment(s) of hepatic encephalopathy?

- (i) High protein diet (40 gm/day)
- (ii) Magnesium sulphate enema
- (iii) Morphine to treat encephalopathy
- (iv) High calorie nutrition.

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

83. Which of the following is/are true regarding rheumatoid arthritis?

- (i) It is caused by bacteria
- (ii) It is a systemic disease
- (iii) It can cause death through cord compression
- (iv) It is associated with joint deformities.

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

84. Which of the following statements are true?

INDEX NUMBER: _____

- (i) Rheumatoid factor is found in the majority of patients with rheumatoid arthritis.
- (ii) NSAID can alter the course of RA
- (iii) There is an increase prostaglandin production in the synovium of RA patient
- (iv) In RA, prednisolone is used mainly as an anti inflammatory agent.

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

85. Which of the following statement are true?

- (i) Gold salt can alter the progression of osteoarthritis.
- (ii) Gram-negative bacteria is commonly found in septic arthritis associated with drug abuse
- (iii) Septic arthritis frequently occur through hematogenous spread of infection.
- (iv) Penicillamine can cause bone marrow toxicity.

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

INDEX NUMBER: _____

86. Which of the following statements are true?

- (i) Aspirin is less potent than piroxicam
- (ii) NSAID should always be given with antacids to avoid GI bleeding
- (iii) Cloxacillin and gentamicin would be a suitable choice in the empirical treatment of septic arthritis in a drug addict
- (iv) Septic arthritis usually involves multiple joints in symmetrical distribution.

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

87. Which of the following statements regarding syphilis is true?

- (a) The incidence of syphilis in the United Kingdom has increased since 1980
- (b) The incubation period of primary syphilis is from 9 to 90 days with an average of 21 days
- (c) In secondary syphilis, the cardiovascular system may be affected
- (d) Neonate born to a mother treated with erythromycin

INDEX NUMBER: _____

during pregnancy does not require further treatment.

88. Which of the following is/are mode(s) of transmission of Human immunodeficiency virus (HIV)?

- (i) heterosexual intercourse
- (ii) blood transfusion
- (iii) transplacentally from mother to fetus
- (iv) close physical contact with intact skin surface.

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

89. Which of the following pairs of statements is/are true regarding treatment of sexually transmitted disease?

- (i) Chlamydial infection in pregnancy:
Doxycycline 100 mg BD for 14 days
- (ii) Gonorrhoea in patient allergic to penicillin:
Intramuscular spectinomycin 2 gram bolus, preceded by
probenacid 1 gram orally
- (iii) Severe primary genital herpes simplex infection:
Topical Idoxuridines
- (iv) Syphilis of more than 1 year:

INDEX NUMBER: _____

Intramuscular benzathine penicillin G 2.4 Mega Unit weekly for 3 successive weeks.

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

90. Which of the following drugs is not useful in the management of acute gouty arthritis?

- (a) Colchicine
- (b) Indomethacin
- (c) Probenecid
- (d) Phenylbutazone.

91. Which of the following drug-side-effects combinations is true?

- (a) Indomethacin - headache
- (b) Colchicine - dizziness
- (c) Phenylbutazone - rash
- (d) Allopurinol - peptic ulceration.

92. Which of the following non-steroidal anti-inflammatory agents (NSAID's) requires dosage adjustment when creatinine clearance is 30 ml/min.?

INDEX NUMBER: _____

- (a) Sulindac
- (b) Phenylbutazone
- (c) Naproxen
- (d) Piroxicam.

93. Which of the following NSAID's has the least effect on blood pressure?

- (a) Indomethacin
- (b) Sulindac
- (c) Piroxicam
- (d) Ibuprofen.

94. Which of the following drug combinations has the least risk for drug interactions?

- (a) Ibuprofen - lithium
- (b) Indomethacin - methotrexate
- (c) Sulindac - lithium
- (d) Diclofena - zidovudine.

95. Which of the following drugs is active against most clinically significant anaerobes and most clinically significant coliforms?

- (a) Imipenem

INDEX NUMBER: _____

- (b) Ciprofloxacin
- (c) Gentamicin
- (d) Metronidazole.

96. Which of the following organisms is usually the cause of peritonitis secondary to trauma wounds?

- (a) Pseudomonas aeruginosa
- (b) Enterococci
- (c) Staphylococcus aureus
- (d) Escherichia coli.

97. Which of the following is not a predisposing factor for primary peritonitis in children?

- (a) post necrotic cirrhosis
- (b) urinary tract infections
- (c) upper respiratory tract infections
- (d) none of the above.

98. Which of the following is/are not risk factors for penicillin nephrotoxicity?

- (i) Liver disease
- (ii) Renal disease
- (iii) Concurrent erythromycin
- (iv) Concurrent probenecid

INDEX NUMBER: _____

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

99. Which of the following is/are true regarding the combination of ampicillin and imipenem?

- (i) it reduces the effectiveness of both drugs.
- (ii) it induces ampicillin hydrolysis by penicillinase
- (iii) it results in synergism
- (iv) it induces penicillinase production by imipenem.

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

100. Which of the following is the drug of choice for the treatment of Cushing's syndrome due to adrenal carcinoma?

- (a) mitotane
- (b) aminoglutethimide
- (c) metyrapone
- (d) cyproheptadine

(50 marks)

SECTION (B)

1. (A) A 24 year old lady complained of painful urination of 6 months. She also had intermittent fever, chills, and back pain. Recently she noted frequency of urination associated with the passage of small volumes of urine.

Physical examination:

Patient was in no obvious distress and her examination was unremarkable except for bilateral flank and upper abdominal tenderness on palpation.

BP100/70 mm Hg, PR 80 T 38°C

Urinalysis

Specific gravity : 1.010 pH 6.0

Protein: nil

Sediment: 3-5 RBC

Sugar: nil 2-3 WBC

no casts

Urine culture : E.Coli 50,000/ml sensitive to all antibiotics tested.

(i) What findings were suggestive of urinary tract infection?

(5 marks)

...50/-

(ii) A prescription for amoxycillin 3 gram stat was given.
Give your comment.

(5 marks)

(iii) Discuss the risks and benefits of a single dose antibiotic therapy for urinary tract infections.

(5 marks)

(B) A 58 year-old male complained of generalized body aches, nasal congestion and non-productive cough.

Physical examination:

Unremarkable except for a few palpable cervical and submandibular nodes.

BP 150/90 mm Hg, PR 80 beat /min., T 38.5°C

Medical history:

Chronic obstructive airways disease for 30 years.

Hypertension for 10 years.

Assessment:

Upper respiratory tract infection.

Prescription:

Theophylline 300 mg BD X 3/12

Salbutamol inhaler ii puffs Qid X 3/12

Hydrochlorothiazide 25 mg OM X 3/12

Erythromycin 500 mg QID X 1/52

Mefenamic acid 500 mg TDS (PRN) (18 capsules)

Actifed i TDS X 1/52

Linctus Codeine 10 ml TDS X 1/52

(i) What are your assessment of the above prescription?

(5 marks)

(ii) Discuss indications for antibiotic therapy in upper respiratory tract infections.

(5 marks)

...52/-

2. A 63 year old man was referred from a district hospital with history of persistent spiking temperatures, severe abdominal pain and cramping.

Past Medical History:

<u>Disease</u>	<u>Date Start</u>	<u>Treatment</u>
Rheumatoid arthritis	1989	diclofenac
Recurrent bleeding gastric ulcer	1990	cimetidine

Review of system:

General: Male and ill-looking

Pulse 100 beats/min., RR 55 Temp 39, B.P. 120/70 mm Hg

CVS: DRNM

Chest: clear

Abdomen: rebound tenderness, diffused pain in the right upper quadrant and presence of fluid waves

Rectum: Guaiac-positive stools

Skin/muscle: dry skin

Neuro/mental: lethargy

EENT: NAD

Allergies:

Not known

Social History:

Smokes cigarettes one pack per day

Results of Laboratory Tests:

Na 145 mMol/l K 3.5 mMol/l HCO₃ 18 mMol/l

Urea 14 mMol/l

Creatinine 120 mMol/l, WBC 15,000 Platelet 150,000

Hb 9g/dl

Provisional Diagnosis:

Peritonitis

Recurrent bleeding gastric ulcer.

Plan:

Vital sign q 4 hourly

Arterial blood gas q 4 hourly

BUSE q 4 hourly

Esophageal Gastric Duodenoscopy

Culture and sensitivity from blood, urine, sputum,

Abdominal Ultrasound and peritoneal fluid.

Treatment:

I.V. Cimetidine 400 mg B.D.

I.V. Cefoperazone 500 mg q 8 hour

I.V. Metronidazole 400 mg q 8 hour

(A) List the subjective and objective data that supports the provisional diagnosis of peritonitis with bleeding gastric ulcer.

(2 marks)

(B) Comment on the overall drug therapy initiated for this patient and suggest ways of optimizing it ?

(8 marks)

(C) Discuss the controversy on the use of H₂-blockers and antacids in the management of upper gastrointestinal bleeding ?

(7 marks)

...55/-

(D) 2 days later, the patient continued to spike a temperature despite treatment. Culture and sensitivity revealed *Streptococcus faecalis* in peritoneal fluid. List the possible alternatives available to treat the infection.

(3 marks)

(E) Based on your alternatives in 3(D), suggest the most suitable antibiotic therapy (drug, dosing, route of administration) and monitoring parameters for this patient. Suggest how the outcome of antibiotic therapy could be optimized in this patient.

(5 marks)

-oooOooo-