

UNIVERSITI SAINS MALAYSIA

**PEPERIKSAAN TAMBAHAN
PROGRAM SARJANA FARMASI
1993-94**

JUN 1994

**FCP 551 PHARMACOTHERAPEUTICS I
(3 HOURS)**

This examination consists of **two sections** and 48 printed pages.

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

Mark (/) all answers on the opposite space corresponding to a correct or most appropriate answer for each question. Each question has only one correct or most appropriate answer or statement.

1. Which of the following statements regarding vasodilators is true?
 - (a) Hydralazine is the drug of choice in the management of hypertension secondary to acute glomerulonephritis.
 - (b) Nitroprusside is the drug of choice in the management of hypertension secondary to renal failure.
 - (c) Prazosin is the only vasodilator commonly associated with priapism.
 - (d) All vasodilators are useful in the management of hypertensive crisis.

2. Which of the following drugs is best avoided in the management of hypertension associated with congestive heart failure?
 - (a) Propranolol.
 - (b) Captopril.
 - (c) Prazosin.
 - (d) Hydrochlorothiazide.

3. Which of the following drug is the drug of choice in the management of hypertensive crisis ?
 - (a) Clonidine.
 - (b) Nitroprusside.
 - (c) Propranolol.
 - (d) Prazosin.

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4. Which of the following antihypertensive drugs is most appropriate in diabetes?
- (a) Diazoxide.
 - (b) Propranolol.
 - (c) Chlorothiazide.
 - (d) Captopril.
5. Which of the following antihypertensive drugs is the most appropriate in renal failure?
- (a) Diazoxide.
 - (b) Propranolol.
 - (c) Chlorothiazide.
 - (d) Captopril.
6. Which of the following antihypertensive drugs is best avoided in patients with low renin level?
- (a) Diazoxide.
 - (b) Propranolol.
 - (c) Chlorothiazide.
 - (d) Captopril.
7. Which of the following antihypertensive drug is associated with Systemic Lupus Erythematosus?
- (a) Hydralazine.
 - (b) Propranolol.
 - (c) Chlorothiazide.
 - (d) Captopril.

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8. Which of the following antihypertensive drugs is best avoided in patient with liver diseases?
- (a) Nitroprusside.
 - (b) Metoprolol.
 - (c) Chlorothiazide.
 - (d) Enalapril.
9. Which of the following antihypertensive drugs is best avoided in pregnant mothers?
- (a) Diazoxide.
 - (b) Methyldopa.
 - (c) Guanithidine.
 - (d) Reserpine.
10. Which of the following antihypertensive drugs is the most appropriate in a young and just married patient?
- (a) Methyldopa.
 - (b) Prazosin.
 - (c) Clonidine.
 - (d) Guanithidine.
11. Which of the following antihypertensive drugs is best avoided in elderly patients?
- (a) Methyldopa.
 - (b) Propranolol.
 - (c) Prazosin.
 - (d) Captopril.

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12. Which of the following antihypertensive drugs is associated with alteration of lipid profiles?
- (a) Diazoxide.
 - (b) Propranolol.
 - (c) Verapamil.
 - (d) Captopril.
13. Which of the following antihypertensive drugs is the most appropriate in asthmatic patient?
- (a) Diazoxide.
 - (b) Propranolol.
 - (c) Chlorothiazide.
 - (d) Verapamil.
14. Which of the following antihypertensive drugs is the most appropriate in patients with hyperthyroidism?
- (a) Diazoxide.
 - (b) Propranolol.
 - (c) Chlorothiazide.
 - (d) Captopril.
15. Which of the following antihypertensive drugs is the drug of choice in the management of heart failure secondary to myocardial infarction?
- (a) Diazoxide.
 - (b) Propranolol.
 - (c) Chlorothiazide.
 - (d) Captopril.

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16. Which of the following features are seen in adult respiratory distress syndrome?
- (i) Pulmonary edema.
 - (ii) Refractory hypoxaemia.
 - (iii) Poor chest compliance.
 - (iv) Low or normal pulmonary artery wedge pressure.
- (a) (i), (ii), (iii) and (iv).
..... (b) (i), (ii), and (iii) only.
..... (c) (i), (ii) and (iv) only.
..... (d) (iii) and (iv) only.
17. Which of the following monitoring is/are appropriate in a ventilated patient in Intensive Care Unit?
- (i) Arterial blood gases.
 - (ii) Chest X-Ray.
 - (iii) Frequent serum lactate measurements.
 - (iv) Bacterial cultures from the endotracheal tube suction.
- (a) (i), (ii), (iii) and (iv).
..... (b) (i), (ii), and (iii) only.
..... (c) (i), (ii) and (iv) only.
..... (d) (iii) and (iv) only.
18. Which of the following complications can occur in a patient with status asthmaticus and on ventilator?
- (i) Pneumonia.
 - (ii) Lung collapse.
 - (iii) Cardiac arrhythmias.
 - (iv) Stress ulcer.

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

19. Which of the following approaches are appropriate in acute respiratory failure?

- (i) The administration of steroids for bronchopneumonia.
- (ii) The administration of high oxygen concentrations in patients with COAD.
- (iii) The removal of secretions.
- (iv) The relief of bronchospasm.

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

20. Which of the following are signs of acute respiratory failure?

- (i) Hypoxaemia.
- (ii) Hypercarbia.
- (iii) Poor conscious level.
- (iv) Cyanosis.

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

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21. Which of the following statements regarding post-resuscitation stabilisation is/are true?

- (i) Continuous IV dopamine is useful.
 - (ii) Serum lactate monitoring will indicate the degree and improvement in shock therapy.
 - (iii) Central venous pressure monitoring is not useful.
 - (iv) Urine output measurement will indicate the degree of hydration.
- (a) (i), (ii), (iii) and (iv).
..... (b) (i), (ii), and (iii) only.
..... (c) (i), (ii) and (iv) only.
..... (d) (iii) and (iv) only.

22. Which of the following statements regarding drug therapy in cardio-pulmonary resuscitation is/are true?

- (i) IV calcium chloride is given in all cases.
 - (ii) IV dextrose 50% is given early in all cases.
 - (iii) IV sodium bicarbonate is given early in all cases.
 - (iv) Intracardiac adrenaline can cause further arrhythmias.
- (a) (i), (ii), (iii) and (iv).
..... (b) (i), (ii), and (iii) only.
..... (c) (i), (ii) and (iv) only.
..... (d) (iv) only.

23. Which of the following is a major function of pharmaceutical care?

- (a) Identification of potential and actual drug related problems.
- (b) Resolving actual drug related problems.
- (c) Prevent potential drug related problems.
- (d) All of the above.

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24. Which of the following statements regarding action potential are true?

- (i) Ionic fluxes occur across the cell membrane during the cardiac cycle.
- (ii) Stimulation during the relative refractory period evokes an action potential of a lesser amplitude.
- (iii) Drug does not influence the responsiveness of cell membranes to stimulations during the cardiac cycle.
- (iv) It is easy to trigger another action potential during the absolute refractory period.

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

25. Which of the following patterns of EKG are seen during acute myocardial infarction?

- (i) Deep Q wave.
- (ii) ST elevation.
- (iii) Ventricular ectopics.
- (iv) Ventricular fibrillation.

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

26. Which of the following statements regarding cardiac arrhythmias are true?

- (i) Supraventricular tachycardia can cause decrease in blood pressure.
- (ii) Complete heart block can affect the blood pressure.
- (iii) Ventricular tachycardia can become ventricular fibrillation.
- (iv) Ventricular flutter should be left alone.

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

27. Which of the following factors can affect heart rate and/or rhythm?

- (i) Hypoxia.
- (ii) Pain.
- (iii) Acid base balance.
- (iv) Drugs.

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

28. Which of the following drugs can be administered through the endotracheal tube during resuscitation?

- (i) Adrenaline.
- (ii) Atropine.
- (iii) Lignocaine.
- (iv) Sodium bicarbonate.

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

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29. Which of the following are important to be monitored during cardiopulmonary resuscitation?

- (i) Rate of oxygen delivery.
- (ii) Atrial blood gases.
- (iii) A good venous access.
- (iv) Serum calcium.

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

30. Which of the following routes are utilisable for drug delivery during cardiopulmonary resuscitation?

- (i) Intracardiac.
- (ii) Intraosseous.
- (iii) Intratracheal.
- (iv) Intravenous.

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

31. Which of the following lipids and lipoproteins does not change after meal?

- (i) Total cholesterol.
- (ii) High density lipoprotein-cholesterol.
- (iii) Triglyceride.
- (iv) Low density lipoprotein.

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

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32. Which of the following are causes of high blood cholesterol?

- (i) Nephrotic syndrome
- (ii) Hypothyroidism.
- (iii) Diuretics.
- (iv) Cyclosporine.

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

33. Which of the following statements regarding bile acid resins are true?

- (i) It prevents systemic absorptions of drug.
- (ii) It is recommended in children and premenopausal women.
- (iii) It interacts with warfarin.
- (iv) It can cause abdominal bloating.

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

34. Which of the following statements regarding HMG CoA reductase inhibitor are true?

- (i) It is a powerful inhibitor of cholesterol synthesis in the liver.
- (ii) It is best administered at night.
- (iii) It reduces cholesterol by up to 35%.
- (iv) It increases the incidence of myopathy when used in combination with gemfibrozil.

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

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35. Which of the following statements regarding ACE-inhibitors are true?
- (i) It reduces proteinuria.
 - (ii) It cause hyperkalaemia.
 - (iii) It is commonly associated with cough.
 - (iv) It should not be used in a patient with renal artery stenosis.
- (a) (i), (ii), (iii) and (iv).
..... (b) (i), (ii), and (iii) only.
..... (c) (i), (ii) and (iv) only.
..... (d) (iii) and (iv) only.
36. Which of the following antihypertensives do not have any negative effect on lipid and lipoprotein metabolism?
- (i) ACE-inhibitors.
 - (ii) Prazosin.
 - (iii) Calcium channel blockers.
 - (iv) Propranolol.
- (a) (i), (ii), (iii) and (iv).
..... (b) (i), (ii), and (iii) only.
..... (c) (i), (ii) and (iv) only.
..... (d) (iii) and (iv) only.
37. Which of the following antiasthmatic agents needs special precautions in patients with urinary incontinence?
- (a) Theophylline.
 - (b) Salbutamol.
 - (c) Ipratopium bromide.
 - (d) Ephedrine.

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38. Which of the following antiasthmatic agents has a higher tendency for causing tremors, anxiety and restlessness?
- (a) Theophylline.
 - (b) Salbutamol.
 - (c) Ipratopium bromide.
 - (d) Ephedrine.
39. Which of the following reasons for the greater hazard of antihypertensive drugs in the elderly is true?
- (a) The changes in cardiac index.
 - (b) The decrease in the adaptability of the heart to stress.
 - (c) The reduction in the plasma renin levels.
 - (d) The altered baroreceptor function.
40. Which of the following changes in beta-receptors occur with age?
- (a) Increased receptor responsiveness.
 - (b) Decreased receptor responsiveness.
 - (c) Decreased number of receptors.
 - (d) All of the above.
41. Which of the following drugs is associated with a declining maximum response in the ageing heart?
- (a) Dobutamine.
 - (b) Quinidine.
 - (c) Isosorbide dinitrate.
 - (d) Captopril.

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42. Which of the following pulmonary function tests measures lung air flow?
- (a) Forced vital capacity.
 - (b) Forced expiratory volume in one second.
 - (c) Peak expiratory flow rate.
 - (d) None of the above.
43. Which of the following clinical features is not a presentation of asthma?
- (a) Hypoxia during an acute attack.
 - (b) Chest tightness which is worse at night.
 - (c) Barrel chest.
 - (d) Non-productive cough.
44. Which of the following is a clinical feature of emphysema?
- (a) A high degree of bronchospasm.
 - (b) An obstruction which is reversible with the administration of beta-agonist.
 - (c) Hypoxia.
 - (d) Alveolar inflammation.
45. Which of the following statements regarding asthma is true?
- (a) There is an increasing importance placed on the inflammatory component of asthma with bronchospasm being secondary manifestation.
 - (b) Sputum production is copious and continuous when compared to bronchitic patient.
 - (c) There is a high incidence among smokers.
 - (d) Allergic component is usually associated with late onset of asthma.

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46. Which of the following statements regarding exercise-induced asthma is not true?
- (a) It occurs in about 70 - 90 % of asthmatic population.
 - (b) It develops after about 10 - 20 minutes of discontinuing exercise.
 - (c) It is worse in warm and moist air.
 - (d) It may be triggered by an exposure to airway irritants.
47. Which of the following drugs has no role in the treatment of acute asthma?
- (a) Methylprednisolone.
 - (b) Aminophylline.
 - (c) Cromolyn sodium.
 - (d) Salbutamol.
48. Which of the following antiasthmatic agents has been associated with abnormal psychological testing in children?
- (a) Cromolyn sodium.
 - (b) Theophylline.
 - (c) Fenoterol.
 - (d) Prednisolone.
49. Which of the following statements regarding the pharmacotherapy of chronic obstructive airway disease is not true?
- (a) Theophylline is effective by virtue of its diaphragmatic stimulatory effect.
 - (b) Anticholinergics are more effective in chronic obstructive airway disease than asthma.
 - (c) Cromolyn should be added earlier in the combination therapy of beta-agonist and theophylline.
 - (d) The use of steroids in chronic obstructive airway disease is controversial.

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50. Which of the following condition has been associated with beta-agonist therapy?
- (a) Hyponatraemia.
 - (b) Hypernatraemia.
 - (c) Hypokalaemia.
 - (d) Hyperkalaemia.
51. Which of the following statements regarding theophylline therapy is not true?
- (a) Theophylline has a slower onset at action than beta-agonist.
 - (b) The daily dose should not exceed 900 mg. in the elderly unless indicated by serum levels.
 - (c) Dosing should be based on lean body weight for obese patients.
 - (d) The total daily dose of oral theophylline is similar to IV aminophylline.
52. Which of the following dosing intervals is appropriate for the rapid released theophylline tablets in children and smokers?
- (a) 2 hourly.
 - (b) 4 hourly.
 - (c) 6 hourly.
 - (d) 12 hourly.
53. The total daily dose of theophylline should be reduced by 50% when concurrently used with
- (a) phenytoin.
 - (b) valporic acid.
 - (c) carbamazepine.
 - (d) phenobarbital.

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54. Which of the following statements regarding anticholinergic bronchodilators is true?
- (a) It is less effective in children.
 - (b) Tachyphylaxis is not a problem during long term use.
 - (c) Their onset and peak effects are slower than beta-2 agonists.
 - (d) All of the above statements are true.
55. Which of the following is not an advantage of extension devices to metered-dose inhaler over nebuliser?
- (a) Increased portability.
 - (b) Increased cost.
 - (c) Lesser time to use.
 - (d) Lesser risk of infection.
56. What is the most important component in the diagnosis of asthma?
- (a) Eosinophilia.
 - (b) Altered spirometry.
 - (c) History.
 - (d) Skin tests.
57. Which of the following serious adverse effects of theophylline is well documented?
- (a) Hepatitis.
 - (b) Arrhythmias.
 - (c) Mental changes.
 - (d) Pulmonary fibrosis.

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58. Which of the following side effects of theophylline is considered unavoidable?
- (a) Palpitation.
 - (b) Seizures.
 - (c) Vomiting.
 - (d) Diarrhoea.
59. Which of the following combination of drug - side effect is true?
- (a) Terbutaline - tachycardia.
 - (b) Theophylline - tremors.
 - (c) Triamcinolone - arrhythmias.
 - (d) Cromolyn - cough.
60. Which of the following agents should be used if inhaled beta-2 agonists are not sufficient for the outpatient management of asthma?
- (a) Prednisolone.
 - (b) Ipratopium bromide.
 - (c) Theophylline.
 - (d) Cromolyn sodium.
61. Which of the following administration time is the most appropriate for alternate day steroid therapy?
- (a) 6 - 8 am.
 - (b) 6 - 8 pm.
 - (c) 10 - 11 am.
 - (d) 10 - 11 pm.

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62. Which of the following agents may induce asthma in a susceptible patients?
- (a) Tartrazine dye.
 - (b) Optalmic timolol.
 - (c) Sodium bisulphate.
 - (d) Any of the above.
63. When should the patient press down on the canister when using a metered-dose inhaler?
- (a) Before inhalation.
 - (b) At the begining of inhalation.
 - (c) 5 second into inhalation.
 - (d) At the end of inhalation.
64. Which of the following is not a long-term side effect of steroid therapy?
- (a) Weight gain.
 - (b) Hyperkalemia.
 - (c) Mental changes.
 - (d) Osteoporosis.
65. Which of the following is the mediator for penicillin-induced bronchospasm?
- (a) IgG
 - (b) IgM
 - (c) IgE
 - (d) all of the above

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66. Which of the following statements regarding penicillin induced bronchospasm is true?
- (a) The prick test provides a better prediction of penicillin hypersensitivity than intradermal skin test.
 - (b) The severity of the attack increases with patient's age.
 - (c) The majority of fatal reactions to penicillin occurs in patients who have not received penicillin before.
 - (d) Asthmatic patients are reported to have a lesser tendency to develop bronchospasm with penicillin.
67. Which of the following statements regarding aspirin induced bronchospasm is true?
- (a) There is a good relationship between clinical severity of preexisting asthma and the severity of bronchospasm induced by aspirin.
 - (b) The frequency of aspirin induced bronchospasm decreases with age.
 - (c) The mechanism involved was postulated to be due to excessive production of leucotrienes C₄ and D₄.
 - (d) The reaction is usually mild.
68. Which of the following can be used as prophylaxis against bronchospasm in patients receiving iodine containing contrast media?
- (i) Phenylbutazone
 - (ii) Prednison
 - (iii) Theophylline
 - (iv) Chlorpheniramine.
- (a) (i) and (iii) only
 - (b) (ii) and (iv) only
 - (c) (i), (ii) and (iii) only.
 - (d) (iv) only.

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69. Which of the following drug induced pulmonary problems is related to hypoxia?
..... (a) Bronchospasm
..... (b) Pneumonitis
..... (c) Noncardiogenic pulmonary edema
..... (d) Fibrosis
70. The presence of peripheral eosinophilia, pulmonary infiltrates and nonspecific pulmonary function test changes could denote drug induced
..... (a) noncardiogenic pulmonary edema
..... (b) hypersensitive lung disease
..... (c) pulmonary fibrosis
..... (d) bronchospasm
71. Which of the following is not a risk factor for cytotoxic induced lung fibrosis?
..... (a) Oxygen therapy
..... (b) Previous radiotherapy
..... (c) Pre-existing pulmonary diseases
..... (d) Pre-existing liver problem
72. Apart from cytotoxic drug, which of the following has been shown to induce lung fibrosis?
..... (a) Sulfonamide
..... (b) Morphine
..... (c) Gold salts
..... (d) Amiodarone
73. The most common drug implicated in noncardiogenic pulmonary edema is.....
..... (a) ritodrine
..... (b) bleomycine
..... (c) heroine
..... (d) aspirin

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74. Which of the following statements regarding drug-induced hypersensitive lung disease is/are true?

- (i) It has a favourable prognosis.
- (ii) Pulmonary function test abnormalities are non-specific.
- (iii) Corticosteroid treatment is beneficial.
- (iv) It only happens after chronic drug exposures.

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

75. Which of the following conditions predispose(s) a patient to digitalis-induced arrhythmis?

- (i) Hypokalemia
- (ii) Hypomagnesemia
- (iii) Hypercalcemia
- (iv) Hypouricemia

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

76. Which of the following is often the earliest sign of digitalis toxicity?

- (a) Ventricular tachycardia
- (b) Ventricular ectopic beat
- (c) Supraventricular arrhythmia
- (d) Ventricular fibrillation

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77. Which of the following is the drug of choice for the treatment of digitalis-induced arrhythmia?
- (a) Lidocaine
 - (b) Quinidine
 - (c) Phenytoin
 - (d) Procainamide
78. Which of the following is/are postulated pathogenesis of ischemic heart disease among long term past user of oral contraceptives?
- (i) Decreased serum high density lipoprotein.
 - (ii) Decreased antithrombin III activity .
 - (iii) Increased blood pressure.
 - (iv) Accelerated platelet aggregation.
- (a) (i) and (iii) only
 - (b) (ii) and (iv) only
 - (c) (i), (ii) and (iii) only
 - (d) (iv) only
79. The recommended estrogen content in an oral contraceptive pill in order to decreased risk of myocardial infarction while maintaining the efficacy is....
- (a) 10 - 20 mcg
 - (b) 30 - 50 mcg
 - (c) 50 - 70 mcg
 - (d) 80 - 100 mcg

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80. Which of the following agents is/are contraindicated in the treatment of tricyclic antidepressant overdose?
- (i) Lidocaine
 - (ii) Sodium bicarbonate
 - (iii) Phenytoin
 - (iv) Disopyramide.
- (a) (i) and (iii) only
..... (b) (ii) and (iv) only
..... (c) (i), (ii) and (iii) only
..... (d) (iv) only
81. If the use of tricyclic antidepressant is indicated in a patient with bradyarrhythmia, the best choice would be
- (a) Nortriptyline
 - (b) Imipramine
 - (c) Desipramine
 - (d) Protriptyline.
82. Imipramine reduces the ventricular ectopic beats in a manner similar to the antiarrhythmic drugs.
- (a) Class I
 - (b) Class II
 - (c) Class III
 - (d) Class IV
83. In tricyclic antidepressant overdose, cardiac arrest and death is most prominent within the first.....
- (a) 48 hours
 - (b) 36 hours
 - (c) 24 hours
 - (d) 48 hours

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84. The best choice of tricyclic antidepressant in a patient who needs to continue his disopyramide therapy is.....
- (a) nortriptyline
 - (b) imipramine
 - (c) desipramine
 - (d) protriptyline.
85. Which of the following is the first line drug in ventricular arrhythmias?
- (a) Lidocaine
 - (b) Propranolol
 - (c) Mexilitene
 - (d) Amiodarone
86. Which of the following is considered the drug of choice in paroxysmal supraventricular tachycardia (PSVT)?
- (a) Verapamil
 - (b) Digoxin
 - (c) Atropine
 - (d) Quinidine
87. Which of the following is mainly metabolized by the liver?
- (a) Lidocaine
 - (b) Procainamide
 - (c) Bretylium
 - (d) Indecanide
88. Which of the following is mainly excreted by the kidneys?
- (a) Bretylium
 - (b) Quinidine
 - (c) Tocainide
 - (d) Verapamil

...27/-

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89. Which of the following has the highest negative inotropic effects?
- (a) Verapamil
 - (b) Encanide
 - (c) Indecanide
 - (d) Moricizine
90. Which of the following is not a mixed after-load and pre-load vasodilator ?
- (a) Lisinopril
 - (b) Prazosin
 - (c) Nitroprusside
 - (d) Minoxidil
91. Which of the following is predominantly a pre-load reducer?
- (a) Lisinopril
 - (b) Prazosin
 - (c) Nitroprusside
 - (d) Nitrates
92. Which of the following is predominantly an after-load reducer?
- (a) Lisinopril
 - (b) Prazosin
 - (c) Minoxidil
 - (d) Captopril
93. Which of the following is least useful in the treatment of digitalis toxicity ?
- (a) Bretylium
 - (b) Lidocaine
 - (c) Phenytoin
 - (d) Atropine

...28/-

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94. Which of the following drugs increases serum digoxin levels?
- (a) Captopril
 - (b) Cholestyramine
 - (c) Colestipol
 - (d) Cyclophosphamide + vincristine
95. Which of the following statements best describes the role of antiarrhythmic drugs in the prevention of sudden cardiac death?
- (a) The role of antiarrhythmic is predictable based on their electrophysiologic effects.
 - (b) Antiarrhythmics had been used because sudden death is primarily by atrial fibrillation preceded by atrial tachycardia.
 - (c) Routine treatment of asymptomatic arrhythmias in post-MI patients is not considered rational
 - (d) The CAST study showed that antiarrhythmic use reduced mortality.
96. Which of the following is true regarding antiarrhythmics?
- (a) Procainamide is mainly indicated for atrial fibrillation, PVCs and ventricular tachycardias.
 - (b) Lidocaine is mainly used for atrial fibrillation.
 - (c) Bretylium is mainly metabolized by the liver.
 - (d) Flecainide is only 25% metabolized by the liver and 75% excreted unchanged in the urine.
97. Which of the following does not change QRS complexes ?
- (a) Amiodarone
 - (b) Quinidine
 - (c) Procainamide
 - (d) Mexiletine

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98. Which of the following is not an outcome of pharmaceutical care?
- (a) Curing the disease
 - (b) Improving quality of life
 - (c) Reducing symptoms
 - (d) Diagnosing disease
99. Which of the following is/are an example(s) of a drug-related problem?
- (a) Hypertension
 - (b) Concurrent therapy of digoxin and quinidine
 - (c) Captopril-induced cough
 - (d) All of the above
100. Which of the following is a potential drug-related problem?
- (a) Myocardial infarction
 - (b) Asymptomatic hyperuricemia
 - (c) Pulmonary embolism
 - (d) Schizophrenia

(50 marks)

...30/-

SECTION B.

Question 1.

Mr. BSKL, a 35 year old man was brought to HUSM by his wife with complaint of mild headache and shortness of breath.

Past medical history:

Hypertension for 5 years
Diabetes for 8 years
Angina for 2 years.

Medication history:

Hydrochlorothiazide 25 mg daily.
Propranolol 40 mg b.d.
Glibenclamide 2.5 mg daily.
Metformin 500 mg t.d.s.

Family history:

Father - hypertension, diabetes, myocardial infarction and died of stroke.
Mother - Asthma on chronic therapy with salbutamol and steroid.

Physical examination:

Obese, ill looking.
BP: 180/120 mmHg., PR: 80/min., RR: 30/min., T: 37 C
ROS: No abnormality detected except for splinter haemorrhage on L eye.

Laboratory investigation:

RBS: 6 mMol/L, other investigation is pending.

...31/-

Provisional diagnosis:

Uncontrolled hypertension.

Treatment:

Chlorothiazide 500 mg daiy.
Propranolol 80 mg b.d.
Hydrallazine tab. 12.5 mg b.d.
Methyldopa 250 mg t.d.s.
Glibenclamide 2.5 mg daily
Metformin 500 mg t.d.s.
Slow-K 1 tab. daily.
Glyceryl trinitrate 1 tab. SL p.r.n.

Question.

(A) Comment on the treatment of Mr. BSKL at HUSM.

(7 marks)

(B) 2 days later Mr. BSKL was collapsed and his RBS was found to be 0 mMol/L. Explain why Mr. BSKL did not show initial symptoms of hypoglycemia?

(8 marks)

(C) Dextrose 10% at 250 ml/hour was given to treat Mr. BSKL's hypoglycemia. 3 hours later he developed severe chest pain. Explain why Mr. BSKL developed this problems?

(5 marks)

(D) As a clinical pharmacist, give your recommendation on the further management of Mr. BSKL.

(5 marks)

...32/-

Question 2.

Write four short notes on the following topics related to cardiopulmonary resuscitation (CPR).

(A) The rationale to have a pharmacist included in the CPR team.

(7 marks)

(B) Intracardiac administration of epinephrine is no longer recommended when using epinephrine for asystole.

(7 marks)

(C) The similarities and differences between dopamine and dobutamine.

(7 marks)

(D) The rationale for administering of sodium bicarbonate.

(5 marks)

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