

**CIVIL SERVICE COMMON EXAMINATION -2007
TECHNICAL GRADUATE SELECTION EXAMINATION
PAPER III: SUBJECT SPECIALIZATION**

SECTION A: 50 % of marks

a. Multiple choice questions: Circle the correct answer. One mark each (30 marks)

1. What is the emergency number to call for ambulance?

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|---------|----------|
| i. 112 | iii: 130 |
| ii. 125 | iv: 110 |

2. Which of the following drugs is used to poison absorption?

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| i. <i>Lithium</i> | iii: <i>Methanol</i> |
| ii. <i>Activated charcoal</i> | iv: <i>Ipecac syrup</i> |

3. What is the duration of action of short acting insulin?

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| i. 4-5 hours | iii: 6-8 hours |
| ii. 16-24 hours | iv: 24-36 hours |

4. Which of the following drugs cause discoloration (Red) of urine?

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| i. <i>Paracetamol</i> | iii: <i>Aspirin</i> |
| ii. <i>Rifampacin</i> | iv: <i>Erythromycin</i> |

5. Which of the following drugs causes discolouration (black) of feaces?

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| i. <i>Amoxycillin</i> | iii: <i>Antacid</i> |
| ii. <i>Ferrous sulphate</i> | iv. <i>Colchicine</i> |

6. What is the formula for measuring body mass index?

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| i. <i>Body weight (kg) divided by square of height (metres)</i> |
| ii. <i>Body weight (kg)divided by height in cm</i> |
| iii. <i>Body weight (gm) divided by square of height(metres)</i> |
| iv. <i>Hieght(metre)s divided by body weight</i> |

7. Diazepam 5 mg tablet was prescribed as 1 tablet h.s, what will you advise to the patient?

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| i. <i>To take one tablet in the morning</i> |
| ii. <i>To take one tablet at bed time</i> |
| iii. <i>To take one tablet when ever necessary</i> |
| iv. <i>To take one tablet after food</i> |
| v. |

8. Which of the following drugs are contra-indicated during breast feeding?

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|-----------------------|------------------------|
| i. <i>Paracetamol</i> | iii. <i>Gentamycin</i> |
| ii. <i>Lithium</i> | iv. <i>Amoxicillin</i> |

- 9. Which of the following has antagonistic drug interaction?**
- i. Vitamin K with warfarin
 - ii. Digoxin with amiodarone
 - iii. Verapamil with Beta blocker
 - iv. NSAIDS with ACE Inhibitors
- 10. Which formula is used for calculating half life of a drug?**
- i. 0.693 multiplied by volume of distribution & divided by clearance
 - ii. Volume of distribution multiplied by clearance
 - iii. Clearance divided by volume of distribution
 - iv. 0.893 multiplied volume of distribution divided by clearance
- 11. Which of the following statements are true?**
- i. Do not drink alcohol with metronidazole tablet
 - ii. Amoxycillin should be taken before food
 - iii. Drink plenty of fluid with cotrimoxazole
 - iv. Penicillin should be taken with food
- 12. What is the maximum daily dose of paracetamol?**
- i. 15mg per kg
 - ii. 50mg per kg
 - iii. 40mg per kg
 - iv. 60 mg per kg
- 13. Mr. Sonam 53 years of age had raised blood pressure(over 140/90mm of hg) for three consecutive readings and was diagnosed as suffering from essential hypertension. GDMO from chamber 2 ask you, what would be the drug of choice for this patient. The correct answer would be:**
- i. Atenolol 50 mg per day
 - ii. Hydrochlorothiazide 12.5 mg per day
 - iii: Enalapril 5 mg per day
 - iv: no treatment
- 14. What is the dose of ranitidine for gastro-oesophageal reflux disease?**
- i. 150 mg od
 - ii. 75 mg bd
 - iii. 300 mg hs
 - iv. 150mg tid
- 15. What groups of drugs does omeprazole belong?**
- i. H2- receptor antagonist
 - ii. chelates
 - iii: antimascurinic
 - iv: Proton pump inhibitors
- 16. What is the common side effect from codeine phosphate tablet?**
- i. Respiratory depression
 - ii. Diarrhoea
 - iii. Constipation
 - iv: Heart attack
- 17. What is the drug used for digoxin over dose?**
- i. Enoximone
 - ii. perfan
 - iii: Digibind
 - iv: digitoxin
- 18. Which groups of diuretics does triamterene belong to?**
- i. Loop diuretics
 - ii. Thiazide diuretics
 - iii. Postassium sparing diuretics
 - iv: osmotic diuretics

19. The common side effect of enalapril which is not caused by losartan is?

- i. Persistant dry cough
- ii. giddiness
- iii: Persistant diarrhoea
- iv: severe hypotension

20. Which of the following statement is not true for low molecular weight heparin?

- i. Are as effective and safe as unfractionated heparin
- ii. Duration of action is longer than unfractionated heparin
- iii. It can be given once daily dosing
- iv. When given for standard prophylactic regimen, it requires constant hourly monitoring

21. Which of the following statement is not true for statins?

- i. Competitively inhibit HMG CoA reductase
- ii. Statins are not as effective as other drugs in lowering LDL-cholesterol
- iii. Reduces cardiovascular disease event
- iv. Liver function test should be monitored before administration

22. Which of the following antihistamines have the least sedative effect?

- i. Promethazine
- ii. cetirizine
- iii. Chlorphenaramine
- iv. Loratadine

23. What is the optimal serum lithium concentration for maximum benefit?

- i. 0.4-1mmol/liter
- ii. 5-10 mmol/liter
- iii. 1.5 mmol/Liter
- iv. 1-3 mmol/liter

24. Which of the following pharmacological group does fluoxetine belong to?

- i. SSRI
- ii. TCAs
- iii. MAOIs
- iv. Beta blockers

25. Which of the following is not true about the opioid analgesics?

- i. Pentazocine has both agonist and antagonist effect
- ii. Opioids are very good in controlling neuropathic pain
- iii. Pethidine has better effect in controlling pain during delivery
- iv. Tramadol has enhancement of serotonergic and adrenergic pathways

26. What is the maximum weekly dose of ergotamine 1mg tablet?

- i. 8 tablets
- ii. 6 tablets
- iii. 12 tablets
- iv. 14 tablets

27. What is the drug of choice for absence seizure?

- i. Sodium valporate
- ii. Phenobarbitone
- iii. Phenytoin
- iv: carbamazepine

28. What is the main indication for dopaminergic drugs?

- | | |
|---------------------------|--------------------------------|
| i. <i>Epilepsy</i> | iii. <i>Parkinsonism</i> |
| ii. <i>cardiac arrest</i> | iv. <i>Febrile convulsions</i> |

29. What is the treatment of uncomplicated pf malaria in Bhutan?

- | | |
|------------------------------|------------------------------------|
| i. <i>Coartem</i> | iii. <i>Artisunate monotherapy</i> |
| ii. <i>Quinine injection</i> | iv. <i>Chloroquine tablet.</i> |

30. Which of the following is not true about dengue?

- i. *It is transmitted by mosquitoes*
- ii. *It is a viral disease*
- iii. *The main drug to control dengue fever is aspirin*
- iv. *There is no specific treatment for dengue*

b. Short answer questions: 5 marks each (20 marks)

i. What are the two main objectives of essential drugs programme of Bhutan? (5 marks)

ii. List five criteria for the selection of essential drugs of Bhutan? (5 mark)

iii. List two drugs which fall under Schedule I of the single Convention on Narcotic drugs, 1961 and Schedule IV of the 1971 convention on Psychotropic substances. The listed drugs should also be in the essential drugs list of Bhutan(5 marks).

iv. List five professional sub-committees under the Medical and Health council Act 2002(5 marks)

**SECTION B: There are two cases studies: Attempt one case study only
(50 Marks)**

CASE STUDY 1:

Mrs. Phuntsho 45/F from Trashigang was admitted in the medical ward for her uncontrolled diabetic condition. On reviewing her past medical record, she had hypertension which is well controlled on enalapril. She weighs 80 kg with height of 155 cm.

On reviewing her drug chart, she was prescribed following drugs

Metformin 500 mg tds

Insulin tailored dose

Enalapril 5 mg od

Atrovastatin 20 mg od

Aspirin 75 mg od

a. What are the indications for above drugs for Mrs Phuntsho? (5 marks)

Drug	Indication
Metformin	
Insulin	
Enalapril	
Atrovastatin	
Aspirin	

b. What are the different types of diabetes and what are the differences between them in terms of therapeutic management? (5 marks)

c. List the different types of Insulin in terms of duration of action and give one example each (5 marks)

d. Which therapeutic group does enalapril belong and what are the main difference between ACE Inhibitor and Angiotensin II receptor antagonist? (5 marks)

e. List three therapeutic groups of lipid regulating drugs and provide one example each (5 marks)?

f. What are the major complications of diabetics affecting the end organs and how would you prevent and manage it? (5 marks)

g. What are anti-platelet drugs and list two examples of antiplatelet drugs? (5 marks)

h. List three oral anti-diabetic drugs which are available in the Bhutan Essential drug list and what are the differences between them? (5 marks)

i. Mrs. Phuntsho's brother, age 30, ask you to read his blood pressure. What instrument will you use to measure his blood pressure? You found his blood pressure reading as 130/90 mm of hg. Will you advise him on putting anti-hypertensive drugs? Justify your therapeutic decision with evidence? (10 marks)

CASE STUDY 2:

Karma, age 70 female was admitted in medical ward with exacerbation of his chronic bronchial asthma because of his chest infection. On reviewing his past medical record, she had been suffering from congestive cardiac failure and Osteoarthritis. She was prescribed following drugs:

Gentamycin 80mg bd 8am and 8 pm
digoxin 0.25mg mg od (drug free on Saturday and Sunday)
Deriphylline 1 tablet tds
Ibuprofen 400mg tds
Frusemide 40 mg bd

a. What are the indications of above drugs on Mrs Phuntsho? (5 marks)

Drug	Indication
Gentamycin	
Digoxin	
Deriphyllin	
Ibuprofen	
Frusemide	

b. Comment on the above therapeutic decision? (Clearly indicated what the patient is suffering from, what is your therapeutic objective, what was the drug prescribed for each condition and what would be your choice of drug and dose with justification?) (15 marks)

c. What is congestive cardiac failure? Describe it's pathophysiology in terms of causes and compensatory mechanism? (10 marks)

d. List different types of diuretic and its mode of action with diagrammatic illustration?
(10 marks)

e. Describe aminoglycosides in terms of efficacy, dosing regimen and side effects? (5 marks)

f. What is rational use of drugs? Do you consider the treatment for Mrs Karma as Rational? Justify your statement. (5 marks)