GIT PHARMA REVISION

1. *Histamine H2 blockers attenuate the gastric secretory*
*response to acetylcholine and pentagastrin as well*
*because*:
A. H2 blockers block gastric mucosal cholinergic and gastrin receptors as well
B. H2 blockers inhibit the proton pump in gastric mucosa
C. Acetylcholine and gastrin act partly by releasing histamine in gastric mucosa
D. Histamine, acetylcholine and gastrin all act through the phospholipase C-IP3:DAG pathway in gastric mucosa
2. *For healing duodenal ulcer the usual duration of H2*
*blocker therapy is:*
3. 4 weeks
4. 6 weeks
5. 8 weeks
6. 12 weeks
7. *What is true of acid control therapy with H2 blockers:*
8. It generally heals duodenal ulcers fasterthan gastric ulcers
9. It checks bleeding in case of bleeding peptic ulcer
10. It prevents gastro esophageal reflux
11. Both ‘A’ and ‘B’ are correct
12. *In the intact animal H2 receptor antagonists potentiate the following action of histamine:*
A. Cardiac stimulation
B. Fall in blood pressure
C. Uterine relaxation
D. Bronchospasm
13. *Gynecomastia can occur as a side effect of:*
A. Bromocriptine
B. Cimetidine
C. Famotidine
D. Levodopa
14. *Which histamine H2 blocker has most markedinhibitory effect on microsomal cytochrome P-450enzyme:*
A. Cimetidine
B. Ranitidine
C. Roxatidine
D. Famotidine
15. *Choose the correct statement about H2 receptor*
*blockers:*
A. They are the most efficacious drugs in inhibiting gastric acid secretion
B. They cause fastest healing of duodenal ulcers
C. They prevent stress ulcers in the stomach
D. They afford most prompt relief of ulcer pain
16. *Ranitidine differs from cimetidine in the followingrespect:*
A. It is less potent
B. It is shorter acting
C. It does not have antiandrogenic action
D. It produces more CNS side effects
17. *Compared to H2 blockers, omeprazole affords thefollowing:*
A. Faster relief of ulcer pain
B. Faster healing of duodenal ulcer
C. Higher efficacy in healing reflux esophagitis
D. All of the above
18. *Choose the drug which blocks basal as well asstimulated gastric acid secretion without affectingcholinergic, histaminergic or gastrin receptors:*
A. Famotidine
B. Loxatidine
C. Omeprazole
D. Pirenzepine
19. *Omeprazole exerts practically no other action exceptinhibition of gastric acid secretion because:*
A. It transforms into the active cationic forms only in the acidic pH of the gastric juice
B. Its active forms have selective affinity for the H+K+ATPase located in the apical canaliculi of gastric parietal cells
C. Its cationic forms are unable to diffuse out from the gastric parietal cell canaliculi
D. All of the above
20. *The most efficacious drug for inhibiting round the*
*clock gastric acid output is:*
A. Omeprazole
B. Cimetidine
C. Pirenzepine
D. Misoprostol
21. *The following is true of proton pump inhibitors* ***except:***
A. They are the most effective drugs for Zolinger Ellison syndrome
B. Their prolonged use can cause atrophy of gastric mucosa
C. They inhibit growth of H. pylori in stomach
D. They have no effect on gastric motility

1. *The first choice drug for nonsteroidal anti-inflammatory*
*drug associated gastric ulcer is:*
A. Omeprazole
B. Misoprostol
C. Ranitidine
D. Sucralfate
2. *Select the drug which is an inhibitor of gastric mucosalproton pump:*
A. Carbenoxolone sodium
B. Sucralfate
C. Famotidine
D. Lansoprazole
3. *The following class of gastric antisecretory drug alsoreduce gastric motility and have primary effect onjuice volume, with less marked effect on acid and*
*pepsin content:*
A. Histamine H2 blockers
B. Anticholinergics
C. Proton pump inhibitors
D. Prostaglandins
4. *The primary mechanism by which prostaglandins*
*promote ulcer healing is:*
A. Inhibition of gastric acid secretion
B. Augmentation of bicarbonate buffered
mucus layer covering gastroduodenal
mucosa
C. Increased bicarbonate secretion in gastric
juice
D. Increased turnover of gastric mucosal cell
5. *Choose the antiulcer drug that inhibits gastric acidsecretion, stimulates gastric mucus and bicarbonatesecretion and has cytoprotective action on gastricmucosa:*
A. Misoprostol
B. Sucralfate
C. Carbenoxolone sodium
D. Colloidal bismuth subcitrate
6. *The following statement is true about misoprostol:*
A. It relieves peptic ulcer pain, but does not
promote ulcer healing
B. It heals nonsteroidal anti-inflammatory drug induced gastric ulcer not responding to H2blockers
C. It produces fewer side effects than H2blockers
D. It is the most effective drug for preventing ulcer relapse
7. *The ‘acid neutralizing capacity’ of an antacid is*
*governed by:*
A. The equivalent weight of the antacid
B. The pH of 1N solution of the antacid
C. The rate at which the antacid reacts withHCl
D. Both ‘A’ and ‘C’
8. *As an antacid, sodium bicarbonate has the following*
*disadvantages* ***except****:*
A. It causes acid rebound
B. In ulcer patients, it increases risk of perforation
C. It has low acid neutralizing capacity
D. It is contraindicated in hypertensives
9. *The following is true of aluminium hydroxide gel****except****:*
A. It is a weak and slowly reacting antacid
B. Its acid neutralizing capacity decreases on storage
C. It interferes with absorption of phosphate in the intestine
D. It causes loose stools as a side effect
10. *Choose the correct statement about magaldrate:*
A. It is a mixture of magnesium and aluminium hydroxides
B. It has a rapid as well as sustained acid neutralizing action
C. Its acid neutralizing capacity is 2 m Eq/g
D. It causes systemic alkalosis
11. *Antacid combinations of magnesium and aluminiumsalts are superior to single component preparationsbecause:*
A. They have rapid as well as sustained acid neutralizing action
B. They are less likely to affect gastric emptying
C. They are less likely to alter bowel movement
D. All of the above
12. *Sucralfate promotes healing of duodenal ulcer by:*
A. Enhancing gastric mucus and bicarbonate
secretion
B. Coating the ulcer and preventing the action
of acid-pepsin on ulcer base
C. Promoting regeneration of mucosa
D. Both ‘A’ and ‘B’ are correct
13. *Antacids administered concurrently reduce efficacy*
*of the following antipeptic ulcer drug:*
A. Cimetidine
B. Colloidal bismuth
C. Sucralfate
D. Pirenzepine
14. *Choose the correct statement about colloidal bismuthsubcitrate:*
A. It causes prolonged neutralization of gastric acid
B. It has anti-H.pylori activity
C. It relieves peptic ulcer pain promptly
D. All of the above are correct
15. *The drugs employed for anti-H.pylori therapy include*
*the following* ***except:***
A. Ciprofloxacin
B. Clarithromycin
C. Tinidazole
D. Amoxicillin
16. *The following is true of anti-H.pylori therapy* ***except****:*
A. It is indicated in all patients of peptic ulcer
B. Resistance to any single antimicrobial drug develops rapidly
C. Concurrent suppression of gastric acid enhances efficacy of the regimen
D. Colloidal bismuth directly inhibits H.pylori but has poor patient acceptability
17. *Chlorpromazine and its congeners suppress vomitingof following etiologies* ***except:***
A. Motion sickness
B. Radiation sickness
C. Postanaesthetic
D. Uremic
18. *Metoclopramide has the following actions* ***except:***
A. Increases lower esophageal sphincter tone
B. Increases tone of pyloric sphincter
C. Increases gastric peristalsis
D. Increases intestinal peristalsis
19. *Metoclopramide blocks apomorphine induced vomiting, produces muscle dystonias and increases prolactin release indicates that it has:*
A. Anticholinergic action
B. Antihistaminic action
C. Anti 5-HT 3 action
D. Antidopaminergic action
20. *Activation of the following type of receptors presenton myenteric neurones by metoclopramide is primarilyresponsible for enhanced acetylcholine releaseimproving gastric motility:*
A. Muscarinic M1
B. Serotonergic 5-HT3
C. Serotonergic 5-HT4
D. Dopaminergic D2
21. *Select the prokinetic-antiemetic drug which at relatively higher doses blocks both dopamine D2 as wellas 5-HT3 receptors and enhances acetylcholine*
*release from myenteric neurones:*
A. Cisapride
B. Prochlorperazine
C. Metoclopramide
D. Domperidone
22. *Which prokinetic drug(s) produce(s) extrapyramidalside effects:*
A. Metoclopramide
B. Cisapride
C. Domperidone
D. All of the above
23. *Which antiemetic selectively blocks levodopa induced*
*vomiting without blocking its antiparkinsonian action:*
A. Metoclopramide
B. Cisapride
C. Domperidone
D. Ondansetron
24. *The following prokinetic drug has been implicated incausing serious ventricular arrhythmias, particularlyin patients concurrently receiving erythromycin orketoconazole:*
A. Domperidone
B. Cisapride
C. Mosapride
D. Metoclopramide
25. *The fastest symptomatic relief as well as highesthealing rates in reflux esophagitis are obtained with:*
A. Prokinetic drugs
B. H2 receptor blockers
C. Proton pump inhibitors
D. Sodium alginate
26. *Cisapride enhances gastrointestinal motility by:*
A. Activating serotonin 5-HT4 receptor
B. Activating muscarinic M3 receptor
C. Blocking dopamine D2 receptor
D. All of the above
27. *Granisetron is a:*
A. Second generation antihistaminic
B. Drug for peptic ulcer
C. Antiemetic for cancer chemotherapy
D. New antiarrhythmic drug
28. *Prolonged treatment with the following drug canpromote dissolution of gallstones if the gall bladder isfunctional:*
A. Ursodeoxycholic acid
B. Sodium taurocholate
C. Sodium glycocholate
D. Cholecystokinin
29. *Irrespective of the type, all laxatives exert thefollowing action:*
A. Increase the content of solids in the faeces
B. Increase the water content of faeces
C. Reduce absorption of nutrients
D. Increase intestinal motility
30. *Choose the correct statement about lactulose:*
A. It stimulates myenteric neurones to enhance gut peristalsis
B. Administered orally it acts as a purgative within 2-4 hours
C. It is an osmotic laxative that produces soft but formed stools
D. All of the above are correct
31. *The following laxative lowers blood ammonia level inhepatic encephalopathy:*
A. Bisacodyl
B. Liquid paraffin
C. Lactulose
D. Magnesium sulfate
32. *The therapeutic effect of sulfasalazine in ulcerativecolitis is exerted by:*
A. Inhibitory action of the unabsorbed drug onthe abnormal colonic flora
B. Breakdown of the drug in colon to release 5-aminosalicylic acid which suppresses inflammation locally
C. Release of sulfapyridine having antibacterial property
D. Systemic immunomodulatory action of the drug
33. *The preferred drug for controlling an acute exacerbation of ulcerative colitis is:*
A. Prednisolone
B. Sulfasalazine
C. Mesalazine
D. Vancomycin
34. *The following is/are true of mesalazine:*
A. It exerts mainly local anti-inflammatory action in the lower gut
B. It is a broad spectrum antidiarrhoeal drug
C. It can be administered as a retention enema
D. Both 'A' and 'C'
35. *A small amount of atropine is added to the diphenoxylate tablet/syrup to:*
A. Suppress associated vomiting of gastroenteritis
B. Augment the antimotility action of diphenoxylate
C. Block side effects of diphenoxylate
D. Discourage overdose and abuse of diphenoxylate
36. *To be effective in ulcerative colitis, 5-aminosalicylic*
*acid has to be given as:*
A. Acrylic polymer coated tablet which releases
the drug only in the lower bowel
B. A complex of two molecules joined together by azo bond
C. A retention enema
D. Any of the above ways
37. *The opioid antidiarrhoeal drugs act by the followingmechanism(s):*
A. They relax the intestinal smooth muscle
B. They inhibit intestinal peristalsis
C. They promote clearance of intestinal pathogens
D. All of the above
38. *The following is true of loperamide****except****:*
A. It is absorbed from intestines and exerts centrally mediated antidiarrhoeal action
B. It acts on the opioid receptors in the gut
C. It increases tone and segmenting activity of the intestines
D. It inhibits intestinal secretion by binding to calmodulin in the mucosal cells
39. Which of the following classes of compounds stimulates the release of insulin from pancreatic beta-cells?
40. Biguanides
41. **Sulfonylureas**
42. Thiazolidinediones
43. Alpha-glucosidase inhibitors
44. Which of the following is an adverse effect of metformin?
45. **Lactic acidosis**
46. Hypoglycemia
47. Hepatotoxicity
48. Flatulence
49. A child has ingested an unknown substance and has evidence ofrespiratory depression. This symptom is usually found with poisoningdue to?
 A. Amphetamines
 B. Organophosphates
 C. Mushrooms
 **D. Opioids**
50. Indications of oxytocin are following:
	1. Labor and augment dysfunctional labor for conditions requiring early vaginal delivery
	2. Incompleted abortion
	3. For control of pospartum uterine hemorrhage
	4. **All of the above**
51. The following approach is used in ulcer management:
52. Neutralization of gastric acid
53. Eradication of *Helicobacter pylori*
54. Inhibition of gastric acid secretion
55. **All of the above**
56. Which of the following is a complication of insulin therapy?
57. Hypoglycemia
58. Insulin allergy
59. Lipodystrophy at the injection site
60. **All of the above**
61. Therapeutic index (TI) is?
62. **A ratio used to evaluate the safety and usefulness of a drug**
63. A ratio used to evaluate the efffectiveness of a drug
64. A ratio used to evaluate the elimination of a drug
65. A ratio used to evaluate the bioavailability of a drug
66. Which one of the following groups is responsible for the potency and toxicity of local anesthetics?
67. Ionizable group
68. Intermediate chain
69. **Lipophylic group**
70. All of the above
71. Which of the following antiseizure drugs produces enhancement of GABA-mediated inhibition?
72. Carbamazepine
73. Phenytoin
74. **Phenobarbitone**
75. Lamotrigine
76. The main reason for giving levodopa, the precursor of dopamine, instead of dopamine is:
77. **Dopamine does not cross the blood-brain-barrier (BBB)**
78. Dopamine may induce acute psychotic reactions
79. Dopamine is intensively meatabolised in humans
80. All of the above
81. The combination of disulfiram and alcohol leads to accumulation of:
82. Formaldehyde
83. Acetate
84. Formic acid
85. **Acetyladehyde**
86. Drug induced extrapyramidal side effects can be treated by:
87. Levodopa
88. **Benzhexol**
89. Bromocriptine
90. Dopamine
91. Tamoxifen is?
92. Antiandrogen
93. **Antiestrogen**
94. Antiprogestin
95. Androgenic

**SECTION B: (40 Marks)**

37.Explain the mechanism of action of the following drugs: (6 Marks)

(a). Dapaglifozin.

- It’s used in management of diabetes mellitus via inhibition of SGLT2 at the PCT resulting in loss of about 90% of all absorbed glucose in urine.

(b). Carbimazole.

- Used in treatment of hyperthyroidism via inhibition of thyroid hormone synthesis

(c). Atorvastatin.

- It’s a lipid lowering drug which acts by inhibiting the enzyme HMG CoA reductase which catalyss the rate limiting step of converting HMG CoA to mevalonic acid which is eventually converted to cholesterol.

38. State four barriers to insulin therapy. (4 Marks)

**-** fear of needles

- fear of injecting in public

- the perception that the disease is getting worse

- lifestyle burden

- fear of hypoglycemia

- fear of weight gain

39. Expalin the rationale of the use of oral rehydration salts (ORS), Zinc supplementation and Vitamin A vaccination in the management of diarrhoea in children. (3 Marks).

- ORS: replenishes lost water and electrolytes to prevent dehydration.

- Zinc sulphate: a 10-14 day dose reduses the duration and severity of diarrhoeal and also prevents relapse of future episodes for upto to 3 months.

- Vitamin supplementation: vitamin A deficiency increases the risk of dying of diarrheoa two fold.

40. Explain the role of the following drugs in a Maternity Ward: (3 Marks)

(a). Vitamin K injection

- for prevention of hemolytic disease of the newborn

(c). Tetracycline eye oitment (TEO)

- for prevention of ophthalmia neonatorum

(d). Magnesium sulphate injection

- for control of seizures in eclampsia and pre-eclmpsia

41. Compare and contrast uterotonics oxytocin and ergometrine. (4 Marks)

- oxytocin causes contractions which resemble the normal physiologic contractions followed by relaxation. Ergometrine causes tetanic contractions which don’t have relaxation phases.

- oxytocin is used to induce and augment labour as well as prevention of PPH. Ergometrine is only used to prevent PPH.

- oxytocin has a rapid onset while ergometrine has a slow onset

- oxytocin has a short DOA while ergomtrine has a long DOA.

42. Classify Indirect acting cholinergic drugs. (4 Marks)

-Reversible eg neostigmine and physiostigmine

- Irreversible eg malathion, parathion

. Explain why it is important to taper off corticosteroid therapy and why the highest dose should always be given in the morning. (4 Marks)

- tapering off of corticosteroids prevents the suppression of hypothalamus, pituitary and adrenal axis.

- the highest dose should be given in the morning to mimic the normal physiologic peak of cortisol in the body.

**ESSAY: ANSWER ONLY ONE QUESTION. (20 Marks)**

47. (a). Discuss the adverse effects of corticosteroid therapy. (10 Marks)



 (b). Classify hypoglycemic agents giving the mechanism of action, two examples in each class and an adverse effect. (10 Marks)

- sulfonyl ureas eg glimepiride, glicazide

- biguanides eg metformin, phenformin

- thiazolidinediones eg pioglitazole, rosiglitazole

- alpha glucosidase inhibitors eg acarbose , miglitol

- DDP-IV inhibitors eg saxaglitin, sitagliptin

- SGLT2 inhibitors eg canaglifozin, dapaglifozin

1. Lente insulin;
2. Is insulin attached to Neutral Protamin Hagedorn
3. Has a very short duration of action
4. Is attached to Zinc and may cause allergic reactions
5. The following drugs can be used in the management of thyrotoxicosis except one. Which ONE?
6. Propylthiouracil
7. Levothyroxin
8. Propranolol
9. Methimazole
10. All the following statements are generally true for hypothyroidism EXCEPT one. Which ONE?
11. Levothyroxine can cause thyroid storm
12. Euthyroidism is achieved immediately following treatment
13. It is characterized by low levels of circulating T3 and T4
14. There is concomitant hypothermia
15. Cushing’s syndrome;
16. Is characterized by high levels of cortisol and causes abnormal fat distribution in the body
17. May not present in enthusiastic steroid therapy
18. Is incurable
19. Surgical intervention is always contraindicated
20. The following statements apply to dwarfism EXCEPT one. Which ONE?
21. Results from decreased growth hormone secretion
22. Can be treated with somatropin
23. Can be treated with somatostatins
24. Associated with hyposecretory states of the anterior pituitary
25. The following are true of the oxytocin antagonists EXCEPT?
26. Include the antibiotic tetracyclines
27. Conivaptan has mixed receptor activity
28. Clinically used in hypernatremia
29. Can cause hypernatremia as a side effect
30. The following statements refer to use of estrogen in Hormone Replacement Therapy EXCEPT?
31. Stimulative to the osteoclasts
32. Stimulative to osteoblasts
33. Decreases LDL concentrations
34. Increases HDL concentrations
35. The following statements refer to cathartics EXCEPT?
36. Resinous irritant cathartics are mainly insoluble plant materials
37. Bulk cathartics act by increasing the GIT contents through swelling
38. Effects of cathartics may be augmented by chewing miraa
39. Lubricant cathartics may involuntarily seep out of the anus
40. One of the following statements is TRUE concerning emetics. Which ONE?
41. Ipecac syrup can be safely used for long periods to induce emesis
42. Chemotherapy-induced emesis is usually non-responsive to therapy
43. Indicated in poisoning due to corrosive substances
44. Metoclopramide does not affect the chemoreceptor trigger zone
45. Concerning hemorrhoids;
46. May predispose to diarrhea because of patient ‘holding in’ of fecal matter
47. Treatment entails use of vasodilators and local analgesics
48. Antiinflamatory agents are not of clinical significance
49. Severe form is associated with prolapse without spontaneous recession
50. The following are risks associated with transfusion of blood and blood products EXCEPT?
51. Hepatitis transmission
52. Anaphylaxis
53. Hypotension
54. Increased intravascular volume
55. Combination therapy is aimed at all the following EXCEPT one. Which ONE?
56. Provision of a broader spectrum of action
57. Decreasing emergence of resistance
58. Increasing dose related toxicity
59. Decreasing dose related toxicity
60. Select the **true** statement concerning anti-ulcer drugs
61. Cimetidine is an enzyme inducer hence not a first choice drug
62. **Proton pump inhibitors are long acting agents that can be administered once daily**
63. Proton pump inhibitors are given with food to enhance their bioavailability
64. Mucosal protective include misoprostol
65. Which of the following statements is **true** as concerns serotonergic drugs;
66. **Some serotonin antagonists are used as appetite stimulants**
67. Serotonin receptor agonists include Ondansetron
68. Sumatriptan is a serotonin antagonist
69. All the above are true
70. Select the false statement concerning the antidiabetic drug, metformin
71. It is associated with lactic acidosis
72. It is a biguanide
73. **It acts by enhancing insulin secretion from the pancreatic β cells**
74. It is the drug of choice in obese patients
75. Which of the following hormonal drugs is matched with the cancer that it is used to treat
76. Tamoxifen – prostate cancer
77. Diethylstilbestrol- breast cancer
78. **Norethisterone - endometrial carcinoma**
79. Finasteride –cervical cancer
80. **False** concerning androgens and their analogs
81. Esters of natural testosterone are long acting
82. **Are indicated in treatment of benign prostate hyperplasia**
83. Are used in testicular failure
84. Testosterone is converted to the active form by 5 α reductase enzyme
85. Which of the following is **not** a pharmacological effect resulting from the long term use of corticosteroids
86. Susceptibility to superinfections
87. Aggravation of peptic ulcers
88. Elevation of blood pressure
89. **Improved immune competency**
90. Which of the following statements is **not** true concerning corticosteroids
91. They are available both for topical and systemic use
92. They may be appropriately classified as anti-inflammatory drugs
93. They find use in autoimmune disorders
94. **They have a curative effect in rheumatoid arthritis**
95. Concerning drug therapy with corticosteroids, their rational use does **not** include
96. withdrawing medicines gradually
97. Tapering of doses downwards
98. Use of low doses for long-term use
99. **High single doses should never be used**
100. An antithyroid agent that inhibits the synthesis of thyroid hormones is:
101. **Propylthiouracil**
102. Iodides
103. Levothyroxine
104. Thiocyanate
105. The role of narcotics include all the following except:
106. **Used in productive cough to cause suppression of cough**
107. Used in severe visceral pain
108. Used as antidiarrheal drugs
109. Pre-anesthetic medication

State **TRUE/FALSE**

|  |  |  |
| --- | --- | --- |
|  | All NSAIDs are contraindicated in small children | F |
|  | Somatostatin analogs are used in pituitary dwarfism | F |
|  | Oxytocin is used in induction of labour in special circumstances | T |
|  | Long term use of progestins predisposes one to endometrial carcinoma | F |
|  | Antiandrogens are used treatment of acne | T |
|  | Clomiphene is an antiestrogen used in treatment of breast cancer | **F** |
|  | Ciprofloxacin is a potent inhibitor of bacterial protein synthesis | **F** |
|  | Clindamycin is responsible for pseudomembranous colitis | **T** |
|  | Insulin cannot be used in type II diabetes | **F** |
|  | All sulfonamides cause crystalluria  | **F** |

1. Explain why ranitidine is considered a better drug than cimetidine  **3 marks**
* ***It does not significantly inhibit metabolilsm of other drugs***
* ***More potent***
* ***Longer duration of action***
* ***No CNS side effects***
* ***No effect on male sexual function or gynaecomastia***
* ***Low incidence of side effects***
1. What is the advantage of combining the antacid magnesium silicate and aluminium hydroxide **2 marks**
* ***Magnesium salts cause diarrhea which can be countered by the constipatory effects of aluminium salts***
1. Explain the mode of action of steroid hormones **2marks**
* ***Steroid hormones bind to cytoplasmic receptors forming a complex that is transferred into the nucleus of the cell where it binds to DNA molecules to enhance transcription and synthesis of proteins***
1. Outline any three contraindications of corticosteroids **3 marks**

***Peptic ulcers, diabetes mellitus, hypertension, pregnacncy, tuberculosis and other infections, osteoporosis, herpes simoplex keratitits, psychosis, epilepsy, CHF,renal failure***

1. Explain why loop diuretics are referred to as ‘high ceiling diuretics’ **1mark**

***-Their peak diuresis are much greater than that observed with other diuretics***

1. By considering pharmacokinetic properties, explain the advantage of the lipid soluble esters of testosterone over the natural hormone **2 marks**
* ***They are less metabolized and administered as long acting I.M depot injections***
1. Outline the modes of action of oral contraceptives **3 marks**
* ***Inhibition of ovulation***
* ***Thickening of cervical mucus secretion hostile to sperm penetration***
* ***Failure of implantation due to endometrial hyper proliferation***
* ***Uterine and tubal contractions that disfavors fertilization***
* ***Dislodging an implanted blastocyst***
1. Classify estrogens with examples **4 marks**

***Natural estrogens – estradiol, estriol,estrone***

***Synthetic estrogens- steroidal - orally active; ethinyl estradiol, quinestrol, mestranol***

***I.M depot esters-estradiol vaslerate, estradiol cypionate***

***- Non-steriodal- diethylstilbestrol, hexesterol, dienesterol***

1. What is the advantages of combined oral contraceptives over the progestin only pills

**3 marks**

* ***High success rate***
* ***Low risk of endometrial carcinoma***
* ***Cheap***
1. What are the possible causes of contraceptive failure **4 marks**
* ***Compliance***
* ***Wrong timing***
1. Outline adverse effects of oral contraceptives  **4 marks**

***Nausea, vomiting, headache, breakthrough bleeding, amenorrhea,weight gain, pruritus vulvulae, carbohydrate intolerance and precipitation of diabetes, mood swings, thrombosis, genital carcinoma, gall stones, worsening of migraine, benign hepatomas***

1. Nancy is on ‘every day pill’ whereby she takes a combined oral contraceptive pill daily. Because of her busy schedule she has just missed two consecutive tablets and has come to your pharmacy for advice. Advise her. **2 marks**

***Interrupt the course of therapy, an alternative method of contraception used and the next course started on the 5th day of bleeding***

1. What are the advantages and the disadvantages of injectable contraceptives over the oral combined every day pill  **4 marks**

***Adv; compliance***

***Disadv; menstrual irregularities and amenorrhoea, breast cancer risk, infertility is a risk***

1. Outline any two adverse effects of first generation antihistamines that relate to their effect on the autonomic nervous system **2 marks**

**SECTION C**

1. By using appropriate examples, outline the pharmacological classifications and uses of corticosteroids  **20 marks**
2. Which one of the following is an advantage of of second generation antihistamines over the first generation
	* + 1. They lack GIT ulceration properties
			2. They do not cause increased salivation
			3. They lack antimuscarinic properties
			4. They cause a decrease in blood pressure
3. A patient with depression being managed experiences great increase in weight.Select the antidepressant agent that belongs to a class which is more associated with weight gain
4. Amitryptyline
5. Fluoxetine
6. Selegiline
7. Citalopram
8. Which of the following drugs depresses the respiratory system?
9. Pethidine
10. Paracetamol
11. Loperamide
12. Pioglitazone
13. The following statement is correct regarding antacids
14. Systemic antacids have a short duration of action
15. Calcium carbonate antacids induces catharsis
16. Magnesium hydroxide use is associated with rebound acidity
17. Calcium carbonate causes metabolic acidosis
18. Which of the following is correct regarding the management of constipation
19. Carthatics should be avoided during the second semester of pregnancy
20. Irritant cathartics include liquid paraffin
21. Carthatics are associated with constipation
22. Sennokot products can lead to lipid pneumonia
23. Which of the following is classified as a depolarizing skeletal muscle relaxant at the neuromuscular junction
24. Pancuronium
25. d-Tubocurarine
26. Succinyl choline
27. Atropine
28. Mrs Y is an epileptic patient who has been on medication for the last four years. When on treatment she delivered a baby with cleft palate. Which drug is the most probable cause of the teratogenicity
29. Lamotrigine
30. Phenytoin
31. Gabepentin
32. Sodium Valproate
33. Which one of the following is correct regarding the management Parkison’s disease?
34. Carbidopa increases the half life of levodopa in the periphery
35. Levodopa crosses the blood brain barrier
36. Dopamine lacks CNS activity
37. Carbidopa increases the levels of dopamine in the periphery
38. Which one of the following statements hold for constipation;
	1. Hemorrhoids relieve constipation
	2. Constipation of psychogenic origin does not respond to laxatives
	3. Painful anal lesions may worsen constipation ultimately
	4. It is a constant feature in ulcerative colitis
39. Which one of the following is classified as an irritant cathartic;
	1. Croton oil
	2. Liquid paraffin
	3. Isphagula
	4. Bran
40. Laxatives;
	1. May be used for long periods without side effects
	2. Croton oil is an irritant cathartic that may stimulate uterine contractions
	3. Are safe even in presence of GIT obstruction as opposed to purgatives
	4. Are contraindicated in hemorrhoids as they may induce arrhythmias
41. The following drug used for management of diarrhea acts through increasing the viscosity of GIT contents
42. Activated charcoal
43. Diphenoxylate sodium
44. Loperamide
45. Atropine
46. Which of the following statements is true regarding the management of peptic ulcer disease?
47. Systemic antacids cause rebound acidity
48. H1 receptor blockers decrease gastric production
49. Prostaglandins increase mucosal blood flow
50. Antibacterial agents should be avoided

Which of the following is classified as a depolarizing agent

1. Diazepam
2. Tubocurarine
3. Suxamethonium
4. Atropine

13. Which of the following are symptoms of poisoning with tricyclic antidepressants?

1. Hypotension, mydriasis, and ventricular dysarrhythmias.
2. Hypotension and miosis only
3. Respiratory depression ,miosis and coma
4. Sweating and increased bronchiole secretions
5. Hypnotic drugs are used to treat?
6. Psychosis
7. Sleep disorders
8. Narcolepsy
9. Parkinsonian disorders
10. Which of the following antiseizure drugs produce enhancement of GABA-mediated inhibition?
11. Sodium valproate
12. Carbamazepine
13. Phenobarbital
14. Lamotrigine
15. The main reason for giving levodopa, the precursor of dopamine instead of dopamine is:
16. Dopamine does not cross the blood brain barrier
17. Dopamine may induce acute psychotic reactions
18. Dopamine is intensively metabolized in humans
19. All of the above
20. Extrapyramidal reactions can be treated by?
21. Levodopa
22. Bromocriptine
23. Benzhexol
24. Dopamine
25. Which of the following agents is related to tricyclic antidepressants?
26. Amitriptyline
27. Fluoxetine
28. Diazepam
29. Quitipin
30. Select the antiseizure drug with an analgesic effect:
31. Phenytoin
32. Carbamazepine
33. Sodium valproate
34. Clonazepam
35. Insulin cannot be administered?
36. Orally
37. Subcutaneously
38. Intramuscularly
39. Intravenously
40. Which of the following statement is true about glucagon?
41. Stimulates gluconeogenesis in the liver
42. Stimulates secretion of insulin by beta cells of pancreas
43. Inhibits glucose utilization by skeletal cells
44. Inhibits uptake of glucose in the gut
45. Sulfonylureas act by?
46. Reducing the absorption of carbohydrates from the gut
47. Increasing the uptake of glucose in peripheral tissues
48. Reducing hepatic gluconeogenesis
49. Stimulating the beta cells of pancreas to produce insulin
50. Currently used oral hypoglycemic thiazolidinediones include all the following except?
51. Pioglitazole
52. Rosiglitazole
53. Troglitazole
54. All of the above
55. Which of the following drugs is a DDP-4 inhibitor?
56. Canaglifozin
57. Saxagliptin
58. Repaglinide
59. Miglitol
60. Which of the following is the main complication of insulin therapy?
61. Hypoglycemia
62. Insulin allergy
63. Lipodystrophy at the injection site
64. All of the above
65. State four barriers to insulin therapy. (4 marks)

Discuss the therapeutic uses of carbamazepine and its side effects. (4 marks)

1. (a) Outline five classes of oral hypoglycemic agents giving an example in each class and the mode of action. (10 marks).
2. a. Classify oral hypoglycemic agents and give examples **(8 marks)**

b. Describe six factors which influence the absorption of insulin from the site of administration **(12 marks)**

1. (a) Discuss six classes of oral hypoglycemic agents. (12 Marks)

(b) Discuss four ways of removing absorbed poisons in the body. (8 Marks)

Define constipation. Discuss the clinical applications of cathartics (10 Marks)

1. State four clinical manifestations of hyperthyroidism (4 Marks)
2. State four common pharmacological effects of estrogens (4 Marks)
3. State four classes of oral hypoglycemic agents (drugs) giving an example of each (4 Marks)
4. List four common clinical uses of cathartics (4 Marks)