**QUESTION BANK**

1. Give structure and use of ethacrynic acid

2. Name and structure of diuretic with steroidal nucleus

3. Example of potassium sparing/ loop / saluretic diuretics

4. Name and structure of diuretic of thiazide class

5. Name of enzyme on which acetazolamide acts

6. Name and structure of adenosine nucleoside reverse transcriptase inhibitor

7. Name two prodrugs of acyclovir

8. Ganciclovir/ Valacyclovir/ penciclovir/ Amantidine is a prodrug of acyclovir

9. Zanamavir inhibits DNA polymerase/ Rnase/ Neraminidase/ Reverse transcriptase to show its antiviral action

10. Stavudine/ Lamivudine/ Zidovudine/ Zalcitabine contains 2',3'- double bond in cyclic sugar portion of nucleoside

11. Name and structure one antiviral agent which is purine nucleoside

12. Nevirapine is a nucleoside RT inhibitor/ nonnucleoside RT inhibitor/ Protease inhibitor/ integrase inhibitor

13. Give generic name of HIV protease inhibitor- IDV

14. Name antiviral agent which is purine nucleoside

15. Name of enzyme responsible for acyclovir action

16. Name of peptide drug inhibiting entry of HIV to T cell entry fusion inhibitor

17. Name of virus against which amantadine acts

18. Give generic name and structure for: 4- Guanidino-2,4-dideoxy-2,3-dehydro-N-acetylneuraminic acid

19. Draw structure for : 3'-azido-3-deoxythymidine

20. Name and structure of hypoglycemic agent with sugar moiety

21. Receptor name on which pioglitazone acts is alpha-glucidase/ PPAR gamma/ DPP-IV/ GLP-1 22. Lispro, glargine are examples of insulin analogs/ DPP-IV inhibitors/ GLP-1 agonists/ sulfonyl urea

22. Lispro, glargine are examples of insulin analogs/ DPP-IV inhibitors/ GLP-1 agonists/ sulfonyl urea

23. A diuretic containinig 5-sulfamoylanthranilic acid moiety

24. Furosemide/ acetazolamide/ spironolactone/ ethacrynic acid is a potasium sparing diuretics

25. Cholesterol is associated with: LDL/ VLDL/ LDL and VLDL/ IDL

26. Give example of H2 antagonists with thiazole moiety

27. Name diurtic with action on site-4 with no effect on aldosterone action

28. Name and structure of pteridine ring containing diuretics

29. A diuretic containinig steeroidmoiety

30. Any one example of a carbonic anhydrase inhibitors

31.Give synthesis of furosemide/ acetazolamide

32. What are saluretics? Explain their mechanism of action

33. Explain: Furosemide is a high ceiling diuretics

34. Justify: Potassium supplements coadministered with furosemide

35. Justify: Carbonic anhydrase inhibitors are used in the treatment of glaucoma

36.Give the mechanism of action for spironolactone/ hydrochorthiazide/indapamide/ eplerenone/ brinzolamide/ azosemide

37. 3,5-Dihydroxycarboxylic acid is the basic requirement for HMGRI/ Anticoagulent/ Antiplatlet/ None

38 Example of anticancer agent that works as a mitosis inhibitors

39. Name of enzyme that is main target of cardiac glycosides

40. Draw structure of drug containing coumarin

41. Name and structure of benzimidazole ring containing antihistaminic

42. Give generic name and structure: 4- [1-Hydroxy-4-(4-hydroxydiphenylmethyl)-1-pipieridinyl]butyl alpha,alpha-dimethylphenylacetic acid

43. Vasodilators are coadministered with K+ channel openers/ Ca channel blockers/ diuretics / sodium channel openers

44. Clots can be dissolved using Heparin/ streptokinase/ aspirin/ clopidogrel

45. Structural requirement for anticoagulent activity is coumarin ring/ aromatic/ pyrimidine ring/ aliphatic carboxylic acid

46. Glycoprotein binding receptor antagonist exhibit antiplatlet/ anticoagulent/ antihypertensive/ vasodilator activity

47. Fibrin clot is dissolved by plasmin/ plasminogen/ prothrombin/ thrombin

48. Ezetimibe is an example of ACAT inhibitor/ PDE3/ IP3/ HMGRIs

49. Heparin is obtained from streptococci/ Pig's intestine/ Foetal kidney cells/ *Bacillus subtilis*

50. Organic nitrates work by increasing cAMP/ GMP/ cAMP and GMP/ none

51. Give one point difference between local and general anesthetic

52. State true/ false: Local anesthetic activity generally decrease with incersing lipid solubility

53. Nitrogen mustards are synthesized by substituting variety of alkyl, aryl groups. This helps to

a) Reduce toxicity, b) Reduce nucleophilicity,

c) Both a and b, d) Improve bioavailability.

54. Which of the following is not an alkylating agent

Cyclophosphamide, b) Mitomycin C,

c) Melphalan, d) Mercaptopurine.

55. Which of the following alkylating agent act by free radical mechanism

Mechlorethamine, b) Procarbazine

c) Carmustine, d) Chlorambucil.

56. Vincristine is mitosis inhibitor which acts by

Increasing polymerization, b) Inhibiting chain elongation,

c) Inhibiting polymerization, d) Increasing aster chromatid formation.

57. Ecgonine, Benzoic acid, Methanol are the hydrolytic products of---

Cocaine, b) Procaine, c) Tropine, d) Morphine.

58. The addiction potential of cocaine is due to ---- group?

a) Carbmethoxy, b) Tropine, c) Benzoyl, d)Entire cocaine is addicting.

59. Which of the following cannot be used systemically?

Benzocaine, b) Tetracaine, c) Procaine, d) Lidocaine.

60. Which of the following is plant derived anticancer agent.

Bleomycin, b) Dactinomycin, c) Doxorubicin, d) Paclitaxel.

61. Which of the following causes “Thymine less death”.

5-Flurouracil, b) Methotrexate,

c) Cyatarabine, d) Fluoxuridine.

62. The first ever known anesthetic to human being was----

Ecgonine, Benzoic acid, Methanol are the hydrolytic products of---

a) Cocaine, b) Nitrous oxide, c) Diethyl ether, d) Chloroform.

63. Local anesthetics does not act through----

Potassium channels, b) Sodium channels,

c) Sodium channel receptors, d) Phospholipid and calcium channels.

64. Which of the following is plant derived anticancer agent.

a) Bleomycin, b) Dactinomycin, c) Doxorubicin, d) Paclitaxel.

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c) Cyatarabine, d) Fluoxuridine.

66. Cyclophosphamide is prodrug and rapidly get degraded,

a) This helps in its targeted delivery,

b) To reduce toxicity associated with cyclophoshphamide,

c) This helps in its rapid conversion to active analogue.

d) None of the above

67. Read the following statements related to digitalis cardiac glycosides:

i) All therapeutically active agents are cardenolides.

ii) All contain 3β,12 β,14 β-hydroxyl groups.

Choose the correct option from the following

(i) is correct and (ii) is wrong, b) Both (i) and (ii) are correct

c) (i) and (ii) are wrong, d) (i) is wrong and (ii) is correct

68. Look at the given structure and read the following statements:

i) 14β-OH is responsible to maintain C/D ring ‘cis’.

ii) α,β-unsaturated lactone at 17th position is essential in receptor binding.

69. Choose the correct option from the following;

(i) is correct and (ii) is wrong, b) Both (i) and (ii) are correct,

c) (i) and (ii) are wrong, d) (i) is wrong and (ii) is correct.

70) Cardiac glycosides act on failing heart through

Na+-K+ ATPase pump, b) Na+-Ca+2 ATPase pump,

c) Na+ ATPase pump, d) K+ ATPase pump.

71. Vincristine is mitosis inhibitor which acts by

Increasing polymerization, b) Inhibiting chain elongation,

c) Inhibiting polymerization, d) Increasing aster chromatid formation.

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74. Give selective alpha1-agonist/ Selective beta-1 blockers/ Selective alpha-2 blockers/ mixed blockers

75. Structure and example of K-channel agonists

76. Structure and example of HMG-CoA reductase inhibitors

77. Example of anticancer agent that works as a mitosis inhibitors

78. Name of enzyme that is main target of cardiac glycosides

79. Draw structure of drug containing coumarin ring

80.A valine containing angiotensin-II inhibitor

81. Classify diuretics based on anatomical sites on nephron and give example of one agent acting on each site

82. Differentiate the following as saluretic/ K+ sparing diuretic/ high ceiling diuretic/ osmotic diuretic:

Methazolamide, bumetanide, metolazone, amiloride, isosorbide

83. Write a note on site 4 diuretics/ thiazide diuretic class/ high ceiling diuretic

84. Give classification for potassium sparing diuretics

85. Give selective alpha1-agonist/ Selective beta-1 blockers/ Selective alpha-2 blockers/ mixed blockers

86. Structure and example of K-channel agonists

87. Structure and example of HMG-CoA reductase inhibitors

88. Draw structure and state to which class it belong for an antiarrythmic drug:

4-amino-N-(2-diethylamino)ethyl)benzamide/ (RS)-1-(1-Methylethylamino)-3-(1-naphthyloxy)propan-2-ol/

89. Draw structure and state to which class it belong for an antiarrythmic drug:

. N-o-Bromobenzyl-N-ethyl-N,N- dimethylammonium tosylate/ N-(2,6-Dimethylphenyl)alaninamide

90. Give two examples of transition state analogs having antiviral activity.

91. Name structure of sugar of any two sugars that from part of cardiac glycoside

92. Draw structure of labetalol and mark chiral centers

93. An acetylcholinesterase inhibitor which is not a substrate for enzyme

94. Name and structure of adenosine nucleoside reverse transcriptase inhibitor

95. Name two prodrugs of acyclovir

96. Give generic name of HIV protease inhibitor- IDV

97. A lipophilic primary amine with antiviral activity

98. Draw sructure for : 3'-azido-3-deoxythymidine

99. Give generic name and structure for: 4- Guanidino-2,4-dideoxy-2,3-dehydro-N-acetylneuraminic acid

100. Give the classification of antiviral agents and give one example of each class

101. Classify the following diuretics based on their site of action: brinzolamide, triampterene, chlorthiazide, ethacrynic acid

102. Give the mechanism of action: ganciclovir/ penciclovir/ abacavir/ zalcitabine/ ribavirin/ vidarbine/ lamivudine/ nevirapine/ delavirdine/ efavirenz/ nelfinavir/ saquinavir/ ritonavir/ raltegravir

103. Give the mechanism of action: acetazolamide/ brinzolamide/methazolamide/ furosemide/ azosemide/ bumetanide/ ethacrynic acid/ chlorthiazide/ hydrochlorthiazide/ indapamide/ spironolactone/ eplerenone/ triamterene/ amiloride/ isosorbide

104. Give the mechanism of action for gemfirozil// clofibrate/ ciprofibrate/ fexofenadine/ loratidine/ cetrizine/ ranitidine/ famotidine/ nizatidine/ omeprazole/ rabeprazole/ lansoprazole/ sitagliptin/ metformin/ nateglinide/ repaglinide/ pioglitazone/ gyburide/ glipizide/ saxagliptin/ miglitol/ voglibose/ acetohexanide

105. Give the mechanism of action: captopril/ enalapril/ benzapril/ ramipril/ lisinopril

106.Give the mechanism of action: quinidine/ procainamide/ disopyramide/ lidocaine/mexillitine/ encainide/ amilodarone/ verapamil/ propaphenone/ diltiazem/ propranolol/ sotalol/

107. Draw the general structure of sulfonyl urea and mention any two important structural variations to show increased hypoglycemic action

108. Give any two SAR points for thiazide diuretics

109. Give name and structure of hypoglycemic agent with pyridine ring/ thiazolidinone group

110. Name of enzyme on which exenatide shows action

111. Name and structure of hypoglycemic agent with sugar moiety

112. Recepter name on which pioglitazone acts

113. Give generic name and structure: N-[(butyamino)carbonyl}-4-methylbenzenesulfonamide

114. Give synthetic route for tolbutamide/ acetohexamide/ glyburide

115. Draw structure of metaglinide/ sitagliptin

116. Name rapid acting insulin analogs

117. Name and structure of DPP-IV inhibitor

118. Draw the s structure of sulfonyl urea class and state what changes in activity obtained if:

i) Introduction of cyclohexyl group on nonsulfonyl attached urea nitrogen

ii) Introduction of beta-(arylcarboxamidoethyl) group

119. Write a note on development of sulfonyl urea class of compounds

120. Elaborate on strategies for combating diabetis with newer agents

121. Which group is responsible for higher potency of second generation sulfonyl urea

122. Justify: sugar moiety containing hypoglycemics exist

123. Give example of H2 antagonists with thiazole moiety

124. Name and structure of benzimidazole ring containing antihistaminic

125. Give generic name and structure:

126. 4- [1-Hydroxy-4-(4-hydroxydiphenylmethyl)-1-pipieridinyl]butyl alpha,alpha-dimethylphenylacetic acid

127. What is the role of selective H1 receptor antagonists?

128. Give the mechanism of action for nizatidine/ ranitidine/ cetrizine/ rabeprazole

129. Justify: Omeprazole is antihistaminic

130. Write a note on proton pump inhibitors/ H2 receptor antagonists/ selective H1 receptor antagonists

131. Why astemizole and terfenadine withdrawn from the market

132. Justify: Metabolite of terfenadine still used as antihistaminic agent

133. Comment on structural diversity of clinically useful H2 recetor antagonists

134. How Proton pump inhibitors differ from H2 receptor agonists

135. Enlist general antiviral classes

136. Measels is an example of ----- viral disease.

137. AIDS is an example of ----viral disaese

138. ---- is a prodrug of acyclovir

139. ----- is an example of neuraminidase inhibitor

140. Enlist any two RT/ non RT inhibitors

141. State examples of any two combinations for antiviral therapy

142. ----- is an example of HIV protease inhibitors

143. Raltegravir shows inhibition of -------- enzyme of RNA replication cycle

144. Choose correct alternative: Sulfonyl urea group is acidic/ basic/ neutral in nature

145. Tolbutamide is an example of sulfonyl urea/ nonsulfonyl urea

146. Choose correct alternative:

Lipophilicity on sulfonyl urea N would increase/ decrease hypoglycemic activity

147. ---- is an example of antihyperglycemic and not hypoglycemic agent

148. Sitagliptin is an example of ------- enzyme inhibitors

149. ----- is an example of GLP-1 agonists extracted from Gila monster venom

150. ----- insulin is an example of slow action insulin analog

151. Draw histamine structure and number them

152. ----- is a major drawback of first generation antihistaminics

153. Omeprazole/ Famotidine is an example of proton pump inhibitors

154. Ranitidine shows antihistamic action by H2 receptor antagonism/ H1 receptor antagonism

155. 1. Match the following:

Column A Column B

Acetazolamide Site 2

Hydrochlothiazide Site 1

Site 3

Site 4

156. ----- is an example of steroidal nucleus containing diureetic agent

157. Loop diuretic Ethacrynic acid acts on site2/ site 3 of kidney

158. An uncontrolled growth of cell is known as ----

159. Name the four phases of cell cycle.

160. Chemotherapeutic agents act on fastest growing cells in body. (True/False)

161. --- is commonly observed side effect of current anticancer drugs.

162. Alkylating agents act on --- position of DNA bases.

163. Mechlorethamine is used for which type of cancer

164. Cyclophosphamide is prodrug. (True/fase)

165. Cyclophosphamide gives --- as toxic metabolite.

166. Give the name of alkylating agent which act by free radical mechanism.

167. Give the therapeutic use of Cisplatin.

168. Methotrexate is an antimetabolite of ------

169. 5-flurouracil act on which enzyme?

170. Name the enzyme against which 6-MP acts?

171.6-TG acts on purine biosynthesis. (True/False)

172. Dactinomycin is a derivative of ----

173. Doxorubicin act by DNA alkylation. (True/False)

174. Vincristine and paclitaxel both are mitosis inhibitors, vincristine induces polymerization whereas latter induces depolymerization. (True/False)

175. Give the therapeutic use of paclitaxel.

176. Give the example of TK inhibitor.

177. Name histone deacetylase inhibitor.

178. Name the enzyme against which digitalis acts.

179. Digoxin contains ---- --as a sugar part.

180. Name the antiarrythmic agent of Ia class.

181. Procainamide acts by blocking --- channels.

182. Name the class of antiarrythmic agent to which mexilenine belongs.

183. Lidocaine acts by ----.

184. Verapamil is --- type of calcium channel blocker.

185. Amiodarone acts by blocking potassium channels. (True/False)

186. Propranolol act by blockade of --- receptors.

187. Name the selective beta blocker.

188. Name the ACE inhibitor.

189. Give the structure of captopril.

190. Give the name of dicarboxylate ACE inhibitor

191. Enalapril is better than enalaprilat. (True/False)

192. Fosinopril has ---- Zn+2 binding capacity (Less/More)

193. Give the side effects of ACE inhibitors.

194. ARB blockers are therapeutically used as?

195. Losartan is developed from ----.

196. ARB blockers bind to which different sites?

197. Give the basic structural features of ARB blockers.

198. Give the name of acidic ARB blocker

199. Give the structure of ARB blocker prodrug.

200. Verapamil is --- calcium channel blocker.

201. Diltiazem belongs to which chemical class?

202. It is essential to have --- stereochemistry in 1,4-dihydrpyrimidine class of calcium channel blockers.

203. Give the structure of nifedipine metabolism.

204. ------ play an important role in coagulation

205. ---- is aldosterone antagonist.

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207. ----- is a major drawback of first generation antihistaminics

208. Choose correct alternative:Omeprazole/ Famotidine is an example of proton pump inhibitors

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210. Enlist classes for Antihyperlipoproteinemics

211.\_\_\_\_\_\_\_\_ is a beneficial lipoprotein

212. Ezetimibe acts by-------- mechanism

213. Most HMGRIs are 3,5-disubstituted\_\_\_\_\_\_\_\_\_derivatives

214. ------- is an antiaginal agent belonging to organic nitrates

215. Enlist the different classes of agents used for treatment of angina

216. ---- is an example of nonselective beta blockers

217. Acebutalol is selective ------

218. Two examples of anticoagulents are ----- and ------

219. Anticoagulants are mainly used in following diseases:

220. ---- is an antiplatlet agent

221. ----- is used as thrombolytic agent

222. Give the example of halogen containing general anesthetic.

223. Name the general structural features of local anesthetics.

224. Give the example of aminoester type of drug.

225. Give the example of amino ether type of local anesthetic

226. State the important differences in the structure of lovastatin and atorvastatin. What are the important stereochemical attributes that the above mentioned drugs must possess to act as HMG CoA reductase inhibitors? Give any one active metabolite of lovastatin

227. Identify the diuretic agent / hypoglycemic /antcancancer/ antiarrythmic/ antianginal/ antihistaminic/ antiviral activity. Mark the important structural features/ stereocenters and state its activity

228. Cimetidine is known to be derived from histamine structure. Give the stepwise development for the same and mention pairs of bioisosteres used in designing

229. What is the similarity between omeprazole and Esomeprazole?

230. What makes lidocaine to be categorized as antiarrythmic agent and local anaesthetic

231. Give the development of cimetidine from histamine structure

232. Write a note on the development of H2 recetor antagonists

233. Comment on structural similarity between histamine and ranitidine

234. Justify: Cetrizine is an example of nonsedating selective H1 antihistaminic

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241. Name and structure of pteridine ring containing diuretics

242. A diuretic containinig 5-sulfamoylanthranilic acid moiety

243. Any one example of a carbonic anhydrase inhibitors

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256. Structure and example of HMG-CoA reductase inhibitors

257. Example of anticancer agent that works as a mitosis inhibitors

258. Name of enzyme that is main target of cardiac glycosides

259. Draw structure of drug containing coumarin ring

260. State name of any natural product used as a local anesthetic

261. Draw structure and state to which class it belong for an antiarrythmic drug:

i) 4-amino-N-(2-diethylamino)ethyl)benzamide/ (RS)-1-(1-Methylethylamino)-3-(1-naphthyloxy)propan-2-ol/

ii) N-o-Bromobenzyl-N-ethyl-N,N- dimethylammonium tosylate/ N-(2,6-Dimethylphenyl)alaninamide

262. Name structure of sugar of any two sugars that from part of cardiac glycoside

263. Draw structure of labetalol and mark chiral centers

264. Give one point difference between local and general anesthetic

265. State true/ false: Local anesthetic activity generally decrease with incersing lipid solubility

266. An acetylcholinesterase inhibitor which is not a substrate for enzyme

267. A valine containing angiotensin-II inhibitor

268. Predict structure of phase I metabolite of verapamil / propranolol / nifedipine and label them as active/ inactive

269. Give mechanism of action for ramipril/ niacin/ sotalol/ captopril

270. Discus SAR of ACE inhibitors

271. Explain how pH of intracellular and extracellular fluids influence the activity of local anasthetics

272. List out structural requirements for optimal activity of antiarrythmic agent

273. Justify: Long term use of procainamide induces lupus syndrome

274. Classify following drugs into various chemical classes of local anasthetics and write their structures: Procaine, lidocaine, pramoxine, dyclonine, eugenol

275. Give the classification of ACE inhibitors and write one structure belonging to each classification

276. Give classification of calcium channel blockers

277. Discus the development of beta blockers from isoproternol/ HMG CoA reductase inhibitors

278. Enalapril is a prodrug. What is its active form? Which enzyme it inhibits?

279. Give structure and chemical name of ester type anasthetic agent

280. Depict activation of oxaplatin

281. Structure and generic name: 1-(2-chloroethyl)-3-cyclohexyl-1-nitrosourea

282. Outline synthesi of chlorambucil/ idoxuridine/ tolbutamide/ lidocaine/ cyclophosphamide/ cimetidine

283. The dose of 6-mercaptopurine has to be doubled when coadministered with allopurinol. Justify

284. Classify local anasthetics on the basis of chemical structure giving one example each class with structures

285. Discuss development of 5-flurouracil giving its mechanism of action

286. Write a note on antineoplastic antibiotics/ nitrosourea

287. Give the structure that causes thymine less death

288. Give name and structure for aminoether acting as a local anasthetic

289. Give structures and uses of an antimetabolite

290. Name of the enzyme activating 6-thioguanine

291. Potential drug interaction exists between amino ester type local anesthetics and cholinesterase inhibitors. Justify

292. Depict the activation of procarbazine

293. Discuss metabolism of lidocaine

294. Discuss role of intercalating agents in chemotherapy giving suitable examples

295. Name chromophore present in actinomycin

296. An aminoketone acting as local anasthetic

297. Compare and contrast mechanism of action of vincristine and paclitaxel

298. Parenteral dosage forms for injection cannot be prepared for benzocaine

299. Discuss SAR of local anasthetics

300. Discuss mechanism of action for cisplatin

301. Write a note on pyrimidine antimetabolites

302. Write a name and structure of alkyl sulfonate anticancer agent

303. Example of aminoamide as local anasthetic

304. Benzocaine is used topically/ Benzocaine is a weak local anesthetic Justify

305. Discuss mechanism opf action for doxorubicin

306. Give shortnote on anticancer alkylating agent

307. Name and structure of antifolate anticancer agent

308. Name three vasocnstrictors used in combination with local anasthetics

309. Give one example of antimetabolite which is a purine derivatives

310. Name the two enzymes involved in the major metabolic pathway of xylocaine

311. Classify local anasthetics and give scematic representation of the binding of ester type local anasthetic to a receptor site

312. Structure and name of metal containing anticancer drug

313. Give the limitations of chemotherapy for neoplastic diseases and explain the role of combination therapy with examples

314. Give mechanism of action for 6-mercaptopurine/ methotrexate

315. A nitrosourea used against brain tumors

316. Explain how the pH of the intracellular and extracellular fluids influences the activity of local anaesthetics

317. State whether local anaesthetics are weak acids or bases. Write their pKa values.

318. Depict the activation of an alkylating agent cyclophosphamide with relevant equations

319. Write a note on: Organoplatinum antineoplastic agents.

320. Name and structure of a triazenoimidazole anticancer derivative

321. Structure and chemical name of the main metabolic product of lignocaine on hydrolysis

322. Give reactions to show how the alkylating agent Procarbazine is activated *in vivo.*

323. ‘DHFR Inhibitors are used as chemotherapeutic agents’. Explain with suitable examples.

324. Write shortnotes on calcium channel blockers

325. The reaction between p-chlorophenol, acetone, chloroform in presence of NaOH is the first step of synthesis of which drug?

326. 1-Hydrazinoptthalazine hydrochloride is name of which drug?

327. As an antiplatlet drug aspirin works by inhibiting which enzyme in platlets

328. Name drug used for breast cancer treatment

329. List agents with structures that block de novo synthesis of DNA and explain their role in treatment of cancer

330. State important differences in the structures of lovastatin and atorvastatin.

331. What are the important stereochemical attributes that the above mentioned drugs must possess to at as HMG CoA reductase inhibitors?

332. Give any one active metabolite of lovastatin and rosuvastatin

333. Briefly outline role of P2Y receptor in platlet aggregation. Give one molecule that is an antagonist of this receptor. Name the heterocyclic ring in the molecule

334. Outline synthesis of captopril

335. In the 1, 4-dihydropyridine class of calcium channel blockers explain the role of substituents at the 2/6 positions and the substituents at 3/5 positions

336. Explain the role of cAMP and cGMP in smooth muscle contaction/ relaxation

337. Show clearly how nitrogen musturds destroy DNA in human cells

338. Give the schemes of synthesis of the following:

Chlorambucil/ melphalan/ cyclophosphamide/ methotrexate/ Amamtidine/ azidothymidine/ nifedipine/ dipyridamole/ sotalol/ procainamide/ acetazolamide/ furosemide/ ethacrynic acid/ captopril/ chlorthiazide/ hydralazine/ prazocine/ clofibrate/ warfarin/ ranitidine/ acetohexamide/ glyburide/ isoflurane/ benzocaine/ lidocaine

339. Name the enzyme against which aliskarin act.