Question bank, paper-10
Gastro Intestinal tract

I.Name the following :

1.Active principle present in calumba.—(Calumbine)
2.Active principles present in Tr. Zingiberis.—(Camphen,zingiberin, Volatile oils)
3.Active ingredient present in Brazil root.—(Emetine)
4.A drug from Australian frog which has the same property as CCK-Pancreozymin.—(Ceruletide)
5.An antizymotic oleoresin—(Asafoetida)
6.An adsorbent prepared from plants.—(Activated charcoal)
7.An antiemetic agent with an NK1 receptor antagonist action —(Maropitant)
8.An antizymotic obtained from plant.-(Asafoetida)
9.A synthetic alimentary demulcents.—(Polyethylene glycols)
10.A prokinetic drug.—(Metoclopramide)
11.A tissue hormone from upper small intestine which stimulate the motility of gall bladder.—(CCK-Pancreozymin) .
12.Four emodin cathartics.—(Aloes, Cascara sagrada, Senna, Rheubarb)
13.Four adsorbents which can be used for the control of diarrhea.—(Bismuth carb, Kaolin, Attapulgite, Activated charcoal)
14.Medicins which increases the fluidity and volume of saliva. –(Salagogues.)
15.One antibiotic with prokinetic activity.-(Erythromycin)
16.One antisialagogue of plant origin.—(Atropine)
17.One antimuscarinic alkaloid having anti emetic action.—(Hyoscine)
18.One antidopaminergic drug which can be used to close the oesophagial groove.—(Metoclopramide)
19.One antifrothing agent.—(Polymerised methyl silicon)
20.One agent which promote conversion of liver fat in to choline containing phospholipids.—(Choline)
21.One agent used to control Meteorism.__(antiflatulent-simethicon)
22.One butyrophenone derivative with antiemetic action.—(Haloperidol, Droperidol)
23.One complete antiemetic which control emesis even due to labyrinthin stimulation.—(Diphenidol)
24.One injectable drug which cause vomition via stimulation of Chemoreceptor trigger zone.—(Apomorphine)
25.One gastric secretary inhibitor with prokinetic activity.—(Ranitidine)
26.One prostaglandin E1 analog used as mucosal cytoprotectant.—(Misoprostol)
27.One peripherally acting inhibitor of enkephalinase.-(Racecadotril)
28.One sucrose sulphate –aluminum hydroxide complex which polymerizes to a viscous gel in the G.I. tract.—(Sucralfate)
29.One synthetic antisialagogue.—(Glycopyrolate)
30.One synthetic antimuscarinic agent having antiemetic action.—(Dicyclomine)
31.One systemic antacid.—(Sodium bicarbonate)
32.One synthetic emodine compound.—(Dihydroxy anthraquinon)
33.Plant from which calumba is obtained.—(*Jaterrhiza calumba*)
34.Plant from which castor oil is obtained.—(*Ricinus communis*)
35.Plant from which aloe is obtained.—(*Aloe vera(Aloe barbedens)*
36.Plant from which linseed is obtained.-(*Linum usitatissimum*)

37.Plant from which cascara sagrada is obtained.—*(Rhamnus purshiana)*)
38.Part of Gentiana leutea used for therapeutic purpose.—(Root)
39.Part of *Zingiber officinale* used for therapeutic purpose.—(Underground stem)
40.Source of senna.—(*Cassia angustifolia, C. senna*)
41.The pancreatic enzymes acting on starch and casein.—(Trypsin, Amylopsin, Stapsin)
42.The source of agar.—(marine algae)
43.The first H2 receptor blocker introduced in therapy .-(cimetidine)
44.The active ingredient of senna.—(Sennoside)
45.The active constituent of catechu .—(Tannic acid)
46.The commercial source of tannic acid .—(Nut galls , Oak galls)
47.Three aromatic bitters.—(Gentian, Orange, Ginger)
48.Three aromatic oil of vegetable origin with carminative action.—(Turpentine, Peppermint, Cardamum, Ginger)
49.Three antihistaminic with antiemetic action.—(Diphenhydramine, Promethacine, Meclizine, Dimenhydramine)
50.Three antizymotics.—(Ol.Turpentine, Liq.Formalin, Tr.Asafoetida)
51.Three astringents of vegetable origin.—(Catechu, Kino, Krameria.)
52.Three classes of bitter stomachic.—(Simple, Aromatic and Alkaloidal)
53.Three cholagogues .—(Magnesium sulphate, Rheubarb, Calomel)
54.Three H2 blockers.—(Burimamide, Metiamide, Cimetidine, Ranitidine)
55.Three important bile acids --(Cholic acid, Deoxycholic acid, Chenodeoxy cholic acid)
56.Three metallic astringents.—(Copper sulphate, Ferrous sulphate, Zinc sulphate)
57.Three nonsystemic antacids.—(Aluminium hydroxide, Magnesium oxide, Bismuth carbonate)
58.Three natural compounds which modulate intestinal motility.—(Atropine methyl nitrate, Scopalamine, Homatropine)
59.Three species of animals in which vomiting centre is not well developed.—(Equines, Ruminents, Rodents)
60.Three synthetic compound which modulate intestinal motility.—(Adephenine, Mephenzolate, Propantheline bromide, Glycopyrrolate, Diphenoxylate)
61.Three simple bulk purgatives.—(Agar, Tragacanth, Bran.)
62.Two anti bloat drug used.-(polymerized methyl silicon, poloxalene, vegetable oils)
63.Two antiemetic which are centrally acting.—(Promethazine hydrochloride, Chlorpromazine, Droperidol)
64.Two antihistaminics which will reduce vomition.—(Promethazine theoclate, Diphen hydramine)
65.Two antiserotonergic agent—(Ondansetron, Dalasetron)
66.Two antagonist of apomorphine.—(Spiroperidol, Pimozid)
67.Two antiemetics which are locally active.—(Rice gruel, Syrup, Creta, Kaolin, Ice crystals)
68.Two bulk laxatives—(Methyl cellulose, Wheat bran)
69.Two class of bulk purgatives.—(Simple bulk and Saline bulk.)
70.Two chemical agents which stimulate feed intake.—(benzodiazepins, barbiturates)
71.Two cytoprotective drugs.—(Sucrose octasulphate, Colloidal bismuth subcitrate)
72.Two classes of antacids.—(Systemic and Non systemic)
73.Two drugs having antispasmodic effect specifically on oesophagus.—(proquamezine, Methindizate)
74.Two drugs which will helps in the closure of oesophageal groove.—(Copper sulphate, Sodium bicarbonate)
75.Two directly acting sialics.-(arecoline, carbachol)

76.Two fecal softening agent.—(Docusate sodium, Poloxalkol)
77.Two gastro protective agent which will reduce emesis.—(Creta, Kaolin, Bismuth salt)
78.Two hyperosmotic laxatives-(Lactulose, Polyethylene glycol, Magnesium sulfate)
79.Two proton pump inhibitors.—(Omiprazole, Misprostol)
80.Two H1 receptor antagonist used as an antiemetic in motion sickness.-(meclizine, cyclizine, cinnarizine)
81.Two important bile salts.—(Glycocholic acid, Taurocholic acid)
82.Two indirectly acting sialics.-(gentian, nuxvomica)
83.Two liquorice derivatives which stimulate gastric mucous.—(Carbenoxolone , deglycyrrhizinised liquorice)
84.Two locally active reflex emetics.—(Sodium chloride, Copper sulphate, Zinc sulphate ,Sodium carbonate)
85.Two mucosal cytoprotectants.-(Misoprostol. Sucralfate)
86.Two natural neuromuscular purgatives. –(Arecoline, Physostigmine,)
87.Two plant hydrocolloid used as alimentary demulcents.—(Gum tragacanth, Agar)
88.Two preparations of *Zingiber officinale* used in animals.—(Pulvis zingiberis and Tr. Zingiberis)
89.Two phenothiazine derivative having antiemetic action.—(Triflupromazine, Promethazine theoclate, Chlorpromazine hydrochloride)
90.Two prokinetics.-(Cisapride, Metoclopramide, Ranitidine, Erythromycin)
91.Two synthetic agents which stimulate salivation.—(Anethole, Trithione)
92.Two selective M1 receptor antagonist which reduce gastric acid secretion.—(Prenzepine, Talenzepine)
93.Two synthetic neuromuscular purgative.—(Neostigmine, Carbachol)
94.Two synthetic drugs which stimulate hunger.—(Barbiturates, Benzodiazepins)
95.Two simple bitters.—(Calumba, Quassia, Chireta)
96.Two species of animals in which vomiting reflex is not developed .-(Bovine, Equine, Rodents)
97.Two vegetable oils used as lubricant laxative.—(Cotton seed oil, Corn oil, Olive oil.)

II.State True or False:

1.Acetyl choline and gastrin in addition to their direct action indirectly stimulate gastric acid secretion by releasing histamine from Histaminocytes in the oxyntic glands.-(T)
2.Acid neutralization of Magnesiun carbonate is faster than Aluminium hydroxide.-(F)
3.Activated charcoal is not a very good adsorbent.—(F)
4.Administration of hypertonic glucose solution produce favorable response in hepatic disorders.—(T)
5.Alpha adrenergic agonists promote secretion of viscous saliva.-(T)

6.All substances that increase the flow of saliva need not stimulate the secretion of gastric juice.—(T)
7.Aluminium hydroxide hexitol react more readily than aluminium hydroxide as an antacid.—(T)
8.Aluminium compounds as antacids will produce constipatory effect.—(T)
9.Alvimopan binds to mu-opioid receptor in the G.I.tract and minimize the constipatory effect of opioid analgesics.-(T)
10.Alvimopan is a peripherally acting mu-opioid receptor antagonist.-(T)
11.Ammonia and aromatic aminoacids are the two main factors contributing to hepatic encephalopathy.-(T)

12.Anthraquinone is excreted in milk to affect the nursing young ones.-(T)
13.Antisialics are of use in surgical involvement of salivary glands.—(T)
14.Antisialagogues are not recommended in anesthesia.—(F)
15.Aniseed , coriander and ajowan are having carminative action.—(T)
16.Antimuscarinic agents can be used as antistomachic.—(T)
17.Antimotion sickness drugs must be taken 30—60 min before commencing journey to get the effect.-(T)
18.Antistomechic reduce gastric secretion and movement.—(T)
19.Antimuscarinic drugs and adrenergic agents are having gastric sedative effect.—(T)
20.Anticholinergics like propanthelin reduce gastric acid secretion, motility and hunger.-(T)
21.Antacids are recommended along with sucralfate to treat peptic ulcer.-(F)
22.Antidopaminergic drugs can cause closure of oesophageal groove.—(T)
23.Antifrothing agents increases the surface tension and reduces the foam stability.—(T)
24.Antifrothing agents are contra indicated in bloat as it increases the surface tension.(F)
25.Amphetamine and Dexamphetamine is having anorexigenic action.—(T)
26.Antacids containing aluminium bismuth or calcium possess antipeptic activity.—(T)
27.Apomorphine is having no action on dopaminergic receptor.—(F)
28.Apomorphine stimulate chemoreceptor trigger zone and so emetic centre, however it directly suppress emetic centre.—(T)
29.Apomorphine will produce 4-5 vomition at an interval of 20-30 min.—(T)
30.Aprepitant is an NK1 (Neurokinin) receptor antagonist having antiemetic action.-(T)
31.As an emetic xylazine is more effective in cats than in dogs.-(T)
32.As an antiemetic chlor[promazine is more powerful than metochlopramide.—(F)
33.As a purgative saline salt must be administered with sufficient quantity of water.—(T)
34.As an antacid Sodium bicarbonate will causes acid rebound.—(T)
35.As age of Aluminium hydroxide advances the acid neutralizing capacity also increases.-(F)
36.Atropine is more powerful than glycopyrolate as an antisialics.—(F)
37.Barium chloride is a purgative poison.—(T)
38.Benzodiazepines will stimulate appetite for a short period.-(T)
39.Benzodiazepins will suppress the satiety center in the hypothalamus.-(T)
40.Benzodiazepins will stimulate appetite by inhibiting satiety centre via GABA mediated pathway.-(T)
41.Bismuth salicylate has antibacterial, antisecretory and anti inflammatory activity.-(T)
42.Bitters stimulate taste buds and mildly irritate it which stimulate salivation.-(T)
43.Bitters can be used for a long period to stimulate saliva/gastric secretion.- (F)
44.Bloat is the accumulation of excess gas in the rumen as a result of excess production.-(F)
45.Bloat is the accumulation of gas in the rumen as a result of impaired elimination.-(T)
46.By blocking the dopaminergic receptors in CTZ we can block emesis.—(T)
47.Burimamide is an H2 antagonist which reduce gastric acidity.—(T)
48.Butorphanol is administered intra-venously to Horse for the control of colic pain.-(T)
49.Bismuth salicylas is good in E coli diarrhea.—(T)
50.Boiled linseed oil may contain cyanogenic glycoside.—(T)
51.Calcium carbonate can be given along with milk for peptic ulcer.-(F)
52.Calcium carbonate along with milk may produce milk alkali syndrome.-(T)
53.Calcium carbonate along with milk may cause precipitation of calcium salt in kidney and renal insufficiency.-(T)
54.Carminatives causes reduction in the tone of oesophageal sphinctures.—(T)
55.Castor oil contain a toxin called Ricin.—(F)
56.Castor oil is a safe purgative in dogs.—(F)
57.Castor seed cake contain a toxin called Ricin.—(T)

58.Chireta is the dried powdered leaf of *Andrographis paniculata*.—(F)
59.Chloral hydras is having antizymotic action.—(T)
60.Chireta is the powdered whole plant of *Andrographis paniculata*.—(T)
61.Chemoreceptor trigger zone is having very good blood brain barrier.—(F)
62.Chemoreceptor trigger zone(CTZ) is having no blood brain barrier and so highly sensitive to chemicals.—(T)
63.Chlorpromazine binds to calmodulin and interfere secretary process in the intestine.—(T)
64.Chlorpromazine interfere the role cAMP in the secretary process in the intestine.—(T)
65.Chlorpromazine can inhibit apomorphine induced vomition in dogs , but not in cats.-(T)
66.Cholestyramine resin can be used for the control of pruritis in jaundice.—(T)
67.Cimetidine is more potent than Ranitidine as an inhibitor of gastric acid -(F)
68.Cimetidine is having more inhibitory activity on hepatic microsomal enzymes.-(T)
69.Cimetidine has immunomodulatory effect.-(T)
70.Cimetidine have antiandrogenic and immunomodulating effect.-(T)
71.Cisapride is a benzamide prokinetic.-(T)
72.Continuous use of phenolphthalein may lead to laxative dependence.—(T)
73.Constant use of aluminium antacids may causes constipation.—(T)
74.Constant use of magnesium antacids may cause laxative action.—(T)
75.Constant use of bicarbonate along with substantial intake of calcium containing food causes hypercalcemic syndrome including irreversible renal damage.—(T)
76.Corticosteroids have antifibrotic and choleretic effect.—(T)
77.Colchicine is an antifibrotic drug in the liver.—(T)
78.Colloidal Bismuth sub citrate is effective against Helicobacter pylori.—(T)
79.Creta controls diarrhea by forming a smooth coating over mucosa.—(T)
80.Cytoprotective drugs will protect the ulcerative site from acid, pepsin and bile.—(T)
81.Cyanocobalamine has lipotropic effect.—(T)
82.Cyproheptadin is an H1 blocker promoting appetite by inhibition of serotonergic receptors controling satiety centre.-(T)
83.Cyproheptadine is a serotonin antagonist which suppress the satiety centre in the hypothalamus and so increases the appetite.-(T)
84.Dehydrocholic acid is a synthetic bile acids.-(T)
85.Dirlotapide is an anti-obesity drug used in dogs—(T)
86.Demulcents can be used to mask unpleasant taste.—(T)
87.Dehydrocholic acid is a potent hydro choleretic agent.—(T)
88.Diphen hydramine can be recommended as an antiemetic in automobile drivers.—(F)
89.Diphenidol is a complete antiemetic including emesis due to labyrinthin stimulation.—(T)
90.Diphenyl methane cathartics are contact purgative.—(T)
91.Diphenoxylate is more potent than loperamide in the control of diarrhea.-(F)
92.Dicyclomine modulate the intestinal motility.—(T)
93.Droperidol is not recommended in animal practice as it cause behavioral side effects.—(T)
94.Droperidol and haloperidol are neuroleptic drugs with central antiemetic action.—(T)
95.Even though Cinchona bark is mainly having antipyretic and anti malarial action it is also having stomachic action .—(T)
96.Essential phospholipids are necessary for the protection of liver.—(T)
97.Emodins are most active in colon or large intestine impaction.—(T)
98.Emulsified form of Liq. Paraffin crosses the intestinal barrier and transported as foreign material in the system.—(T)
99.Emetic action of xylazine can be blocked with yohimbine.-(F)
100.Emetic centre is located in the Hypothalamus.—(F)
101.Emetic centre is located in the lateral reticular formation of medulla.--(T)

102.Emetics can be recommended in CNS depressed animals.—(F)
103.Emetics are contraindicated in CNS depressed individuals.—(T)
104.Fat causes the liberation of enterogastrin from intestinal mucosa while reduce gastric juice.—(T)
105.Famotidine is more potent than ranitidine.-(T)
106.Failure to close the oesophageal groove is a common cause of recurring bloat in milk fed calves.—(T)
107.Fortiflora is a probiotic used in cats and dogs.—(T)
108.Fortiflora probiotic contain *Enterococcus faecium* - SF 68.—(T)
109.Gum Tragacanth can not be used as an alimetery demulcent.(F)
110.Gallic acid is a better astringent than tannic acid .—(F)
111.Gallic acid produce astringency rapidly than tannic acid.—(T)
112.Glycopyrolate is preferred in caesarean section because it does not cross the placenta.-(T)
113.Glycopyrolate does not cross the blood brain barrier and so there is no central effect.-(T)
114.Granisetron ia a 5HT3 antagonist which is more potent than ondansetron.-(T)
115.High level of iodides in the food increase saliva.—(T)
116.High levels of mercury and salicylates increase saliva.—(T)
117.Histamine analogues are having less effects on blood pressure than histamine.—(T)
118.Histamine, gastrin and acetyl choline will stimulate H+ secretion.-(T)
119.H2 antagonists like Burimamide have anti-stomachic action.—(T)
120.Hypertonic solution of glucose and fructose produce favorable responses in a variety of hepatic abnormalities.—(T)
121.Hyoscine produce sedation in animals except in cats in which it produce excitement.-(T)
122.In cattle Tr. Chireta is used at a dose of 30-60 ml /animal.—(T)
123.Increase in intracranial pressure stimulate vomition via limbic pathway.—(T)
124.Impulses from semicircular canals and Labyrinth stimulate vomiting centre.—(T)
125.Increase salivation in ruminants increases the digestion. –(F)
126.In the lumen of G. I tract H+/ K+ ATPase pump is located at the epical membrane of parietal cells.-(T)
127.In case of cimetidine and ranitidine interaction with H2 receptor is competitive.-(T)
128.In case of loxatidine interaction with H2 receptor is non competitive.-(T)
129.Interaction with H2 receptor is competitive- non-competitive in case of famotidine.-(T)
130.In ruminants saliva mainly acts as a buffer.—(T)
131.In ruminants enzymatic digestion will take place mainly in rumen.-(F)
132.In Horse magnesium sulfate is more effective than sodium sulfate as a purgative.—(F)
133.If first dose of apomorphine does not produce emesis subsequent doses are even less likely to do so.—(T)
134.It is not advisable to give other drugs within 1—2 hours of sodium bicarbonate administration.-(T)
135.It is better to use a combination of magnesium salt with aluminium salt as an antacids.-(T)
136.Lactitol is a sugar alcohol which can be used as an osmotic purgative.-(T)
137.Linseed oil release linolenic acid which form linoleate that acts indirectly to produce purgation.-(T)
138.Liquorice derivatives have a stimulatory action on gastric mucous secretion.—(T)
139.Lozengens are intended for swallowing.—(F)
140.Locally active emetics can be given even when serious erosion of mucous membrane is there.—(F)
141.loxatidine is a non competitive H2 receptor antagonist which completely inhibit gastric secretion.-(T)
142.Macrogol is a polyether compound used as a laxative.-(T)

143.Magnesium sulfate can be given as a purgative even in impaired renal function.—(F)
144.Magnesium sulfate can be used for the control of Quinidine induced arrhythmias.-(T)
145.Magnesium oxide is mainly used as an astringent on skin, it can also be used as a non systemic antacid.—(T)
146.Magnesium salts are contraindicated in impaired renal function.—(T)
147.Megaldrate is magnesium aluminate monohydrate and is a good antacid.-(T)
148.Maropitant is an NK1 receptor antagonist prevent the emetic action of substance P on emetic centre.-(T)
149.Mechanical stimulation like tasty food in front of us can stimulate saliva.—(F)
150.Mechanical stimulation by food in the mouth can stimulate saliva.-(T)
151.Meclizine is a first generation antihistaminic of piperazine class.-(T)
152.Meclizine depress labyrinth excitability and vestibular stimulation thereby blocks emesis-(T)
153.Meclizine is having antihistaminic, antiemetic ,antispasmodic, CNS depressant and local anaesthetic activity.-(T)
154.Mesalazine and olsalazine are used in the treatment of inflammatory bowel disease and ulcerative colitis.-(T)
155.Methylnaltrexone is a peripherally acting mu-opioid receptor antagonist used to treat opioid induced constipation.-(T)
156.Metoclopramide induce closure of esophageal groove in ruminants.—(T)
157.Metoclopramide stimulate motility of proximal GI tract especially LES and stomach-(T)
158.Metoclopramide antagonize dopaminergic D2 receptors and agonism of serotonergic 5-HT4 receptors—(T)
159.Metroclopramide is effective in controlling migraine headaches.-(T)
160,Metroclopramide is photosensitive and hence to be protected from light.-(T)
161.Metroclopramide decreases the bioavailability of drugs which are absorbed from stomach and increases the bioavailability of drugs which are absorbed from small intestine.-(T)
162.Metallic astringents have caustic action also at higher concentration.—(T)
163.Methyl cellulose can be used as simple bulk purgative.—(T)
164.Metronidazole is good in inflammatory bowel disease.—(T)
165.Mineral oil is an alimentary demulcents.—(T)
166.Misprostol is a prostaglandin E1 analog.(T)
167.Milk of magnesia is a systemic antacid.—(F)
168.Mouth washes are not recommended in stomatitis.—(F)
169.Natural bile salts can be replaced with synthetic compounds like Florantyrone and Tocamphyl.—(T)
170.Neuromuscular purgatives are generally parasympathomimetic.—(T)
171.Neither dopaminergic blocker like phenothiazine nor alpha adrenoceptor blockers like yohimbine can block the emetic action of xylazine.-(T)
172.Neuromuscular purgatives are recommended mostly in bovines.—(F)
173.Neuromuscular purgatives are generally recommended in Horses and Elephants.—(T)
174.Non steroidal anti inflammatory agents block the PGE2 which protect the gastric mucosa resulting in gastric ulcer.-(T)
175.Nonsystemic antacids will react with a number of other drugs affecting their absorption and excretion.-(T)
176.Obstruction of pylorus may lead to metabolic alkalosis.-(T)
177.Octreotide is an octapeptide that mimics natural somatostatin.-(T)
178.Olsalazine is good for inflammatory bowel disease.—(T)
179.Olsalazine is less toxic than sulfasalazine.—(T)

180.Omeprazole in combination with antibiotic for eradication of helicobactor pylori is recommended. –(T)
181.Omeprazole is an inactive compound converted in to an active compound in the intestinal wall.-(T)
182.Omeprazole and cimetidine both inhibits hepatic microsomal (Cytochrome P -450) metabolism.(T)
183.Omeprazole is one of the drug of choice for Zollinger Ellison syndrome.—(T)
184.Ondansetron is a selective serotonin 5-HT3 antagonist with antiemetic action.-(T)
185.One percent copper sulfate solution can be used as an emetic.—(T)
186.Opium and related compounds have constipating action.—(T)
187.Opium and related compounds reduces the intestinal motility and constrict the sphincters.—(T)
188.Opioid antidiarrhoeal agents stimulates μ receptor to increase tone , and activate sigma receptor to reduce secretion.-(T)
189.Opioids inhibits acetylcholine release in the GI tract resulting in reduction of propulsive movement.-(T)
190.Pantoprazole is less potent than omeprazole.—(F)
191.Parasympathetic stimulants like atropine modulate intestinal motility.—(F)
192.Pectin is an adsorbent and is of good value in the control of diarrhea.—(T)
193.PG F2 alpha high dose intramuscularly can produce vomition in dogs.—(T)
194.Phenolphthalein is a contact purgative.—(T)
195.Phenothiazine class of antiemetics can control emesis even due to labyrinthin stimulation.-(F)
196.Plantain seeds can be used as simple bulk purgative.—(T)
197.Polycarbophil can be recommended as a simple bulk purgative , it also can be used to relieve constipation.—(T)
198.Polycarbophyl restore a normal moisture level of intestinal content both in diarrhea and constipation.—(T)
199.Polymerized methyl silicon is used in bloat to alter the surface tension of froth and break up the bubbles which contain entrapped gases.-(T)
200.Prednisolone is the drug of first choice for idiopathic chronic hepatitis. –(T)
201.Prednisone is better than prednisolon in the treatment of chronic hepatitis in dogs.—(F)
202.Prokinetic drugs act to increase GI motility by stimulating smooth muscles.—(T)
203.Prolonged use of laxatives may leads to laxative dependence.—(T)
204.Prolonged use of synthetic anthraquinone may cause degenerative changes in the myenteric plexes .-(T)
205.Prolonged use of synthetic anthraquinone may cause loss of intestinal motility.-(T)
206.Prostaglandin E2 by gastric mucosa inhibit gastric acid production by opposing cAMP formation and gastrin release.-(T)
207.Proton pump inhibits the H+/ K+ ATPase on luminal membrane of parietal cells and thus reduce H+ secretion.-(T)
208.Psychic stimuli arising from visual and olfactory sense can cause vomition.—(T)
209.Phenanthrene group of alkaloids of Opium can act as antistomachic.—(T)
210.Ranitidine is having prokinetic activity.-(T)
211.Ranitidine is a competitive inhibitor at H2 receptor.—(T)
212.Ranitidine is more potent than cimetidine.—(T)
213.Ranitidine lacks the anti androgenic effect.-(T)
214.Ranitidine does not inhibit C P 450-(T)
215.Ranitidine can be used as a prokinetic agent.-(T)
216.Ribamipide is an aminoacid derivative of quinolinones.-(T)

217.Ricin in castor seeds is soluble in water and not in oil.—(T)
218.Ruminants saliva contain a surface tension reducing substance.—(T)
219.Ranitidine stimulate gastric and clonic motility by inhibiting acetyl cholinesterase.—(T)
220.S-adenosyl L-methionine (SAMe) is a normal metabolite in the hepatocytes.-(T)
221.S-adenosyl L-methionine (SAMe) is available as a nutraceutical for use in dogs and cats.-(T)
222.Saliva of ruminants contain many digestive enzymes.—(F)
223.Saline bulk can be recommended in dehydrated animals.—(F)
224.Salicylates increases the flow of bile with low specific gravity.—(T)
225.Since Sucralfate impair absorption of other oral medication it is advisable to stagger administration of other drugs by 2 hours or more.-(T)
226.Spasmolytics like N-butyl scopolammonium bromide can be used in Horse for the control of abdominal pain.-(T)
227.Serotonin-2 antagonist like Ketanserin and Mianserin are useful in the control of Bloat-(T)
228.Selenium and vitamin E are essential for the protection of liver.—(T)
229.Selenium is a hepatoprotective agent.—(T)
230.Sialagogues are constituents of tonic preparation.(T)
231.Silimarin is the active component extracted from the fruits of milk thistle and is a strong free radical scavenger.-(T)
232.Small amount of monensin is useful in the manipulation of rumen fermentation to produce high amount of propionic acid.—(T)
233.Sodium sulfate is more effective than magnesium sulfate as a purgative in Horse.-(T)
234.Sodium cathartics are contraindicated in patients with CHF .—(T)
235.Sodium bicarbonate is not advisable to take along with milk and milk products as it increase absorption of calcium leading to hyper calcemia.-(T)
236.Stimuli from visceral organ will not cause vomition.—(F)
237.Stimuli from visceral organs like uterus and heart causes vomition.—(T)
238.Stimulation of sympathetic nervous system causes secretion of scanty saliva.—(F)
239.Stimulation of parasympathetic nervous system causes secretion of viscid saliva.—(F)
240.Stimulation of sympathetic nervous system causes secretion of viscid saliva.—(T)
241.Stimulation of parasympathetic nervous system causes secretion of scanty saliva.—(T)
242.Stimulation of Vagus nerve causes the release of gastrin.—(T)
243.Stomachic will function better in ruminants than in simple stomach animals.—(F)
244.Stomachic will function better in simple stomach animals than in ruminants.—(T)
245.Strong cathartics can be recommended in advanced pregnancy.—(F)
246.Strong cathartics are not recommended in intestinal obstruction.—(T)
247.Strong cathartics are not recommended in lactating female nursing the offspring.—(T)
248.Sucralfate is the safest drug available for treating gastro duodenal ulcer.-(T)
249.Sucralfate binds to and protect the ulcerated site from acid, bile and pepsin activity.-(T)
250.Sulphasalazine is good in the treatment of ulcerative colitis.—(T)
251.Substances with unpleasant taste stimulate saliva as well as gastric juice.—(F)
252.Substituted benzimidazole like omeprazole is a proton pump inhibitor.—(T)
253.Sucralfate is a sucrose sulfate –aluminum hydroxide complex which is used as locally acting drug for GI ulceration—(T)
254.Synthetic anti-muscarinic agents like belladonna can reduce emesis.—(F)
255.Synthetic anti-muscarinic agents like dicyclomine can be used to control emesis.—(T)
256.Synthetic bile acids increase the volume and water content of the bile from liver without increasing the amount of solids.-(T)
257.Taka diastase is obtained from the fungus *Aspergillus oryzae*.-(T)
258.Tannic acid will bind with metallic ions, alkaloids and glycosides.—(T)

259.Tannic acid higher amount is hepato toxic.—(T)
260.Tannic acid 0.25 % is used in burns and scaled.(T)
261.The exact mechanism by which glucocorticoids stimulate appetite is well known.-(F)
262.The most commonly used drugs to eradicate *Helicobactor pylori* are combination of bismuth carbonate and metronidazole or amoxicillin or all the three drugs.-(T)
263.The prokinetic action of domperidone can not be blocked with atropine.-(T)
264.The rumen motility is controlled by a centre located in the lower reticular formation in the medulla.—(T)
265.The active constituent of anthracene purgative is present in plant as inactive precursor glycoside.—(T)
266.The secretions in the intestine caused by E-coli can be antagonized by alpha adrenergic agonist clonidine.—(T)
267.The inhibition of hydrochloric acid secretion by omeprazole stops immediately on discontinuing the medication.—(F)
268.Trimethobenzamide is a powerful anti-emetic that suppresses the CTZ without affecting the emetic centre.—(T)
269.The main side effect of dirlotapide is development of musculo-skeletal disease.—(T)
270.There is a lag period of 3—5 days to reach the maximum effect with omeprazole.—(T)
271.Tr. of Orange is the alcoholic extract of whole orange.—(F)
272.Tr. of Orange is the alcoholic extract of dried orange peal.—(T)
273.Tr. Zingiberis fortis as such can be used as a stomachic in cattle.—(F)
274.The action of magnesium sulfate is less reliable in Horse.—(T)
275.Urine of animals treated with emodin cathartics will give a reddish violet colour to the urine.—(T)
276.Urodeoxycholic acid is a natural bile acid in the enterohepatic circulation.—(T)
277.Urogastrone from urine will reduce gastric secretion.—(T)
278.Ursodeoxy cholic acid is not advisable in patients having extrahepatic biliary obstruction.-(T)
279.Vagal stimulation will promote contraction of Gall bladder.—(T)
280.Violent emotions ,fear and anxiety reduce gastric secretion and hunger.—(T)
281.Volatile drugs such as chloroform, alcohol and aromatic spirit of ammonia can be recommended as carminatives.—(T)
282.Vomition is a protective mechanism of the body.—(T)
283.Vomiting centre is not well developed in ruminants.—(T)
284.Vomiting centre is well developed in all species except in Horse, Ruminants, Pigs, and Rodents.—(T)
285.Washing soda is not a locally active emetic.—(F)
286.When liver is laided with glycogen it is more susceptible to hepatotoxins.—(F)
287.Zinc sulfate is a locally acting emetic.—(T)
288.Zollingor Ellison syndrome is the gastrin producing tumour.-(T)

III.Fill up the blanks with most appropriate words:

1.Aloe is obtained from the plant known as ……(*Aloe vera*)
2.Aloe is used as a purgative especially in animals suffering from impaction of the ……(large intestine)

3.A sedative analgesic .....produce emesis in Cats and Dogs @ 1-3 mg/Kg. i/m.—(Xylazine)
4.Anorexigenic agents acts on .....centre in hypothalamus and reduce feed

intake.—(Satiety)

5.As an antizymotic Ol. Turpentine must be diluted with .....oils.—(Edible fixed)

6.Astringents are mainly grouped in to two.....and.....—(plant origin and metallic)

7.Based on the degree of action cathartics are classified mainly in to three a) Laxatives, b)..... c) .....purgatives.—(Simple , drastic)

8.Based on mechanism of action purgatives are classified in to a) Mechanical lubricant laxatives b) ..... c).....—(Bulk purgative, irritant purgative)

9.Bile acids are conjugated with glycine or .....and secreted as sodium salt known as .....—(Taurine , Bile salts)

10.Bile absorbents are useful in prophylaxis of .....—(Arteriosclerosis)

11.Calcium carbonate is otherwise known as .....—(Creta)

12.Carbenoxolone sodium.....the secretion of gastric mucoprotein result in.....life span of mucosal cell.—(stimulate, prolonged)

13.Carbenoxolone sodium is a derivative of enoxolone prepared from…….acid found in licorice.—(glycyrrhizic)

14.Carminatives and Antizymotics can be used to control .....in ruminants and….. .....in Horse.—(Tympany/ Bloat, Colic)

15.Castor been husk contain a toxic albumin called .....—(Ricin)

16.Catechu can be extracted from the leaves of a plant called.....—(*Uncenaria gambier*)

17.Chemoreceptor trigger zone is having .....receptors.—(Dopaminergic)

18.Chemoreceptor trigger zone is located in the.....of third ventricle.— (Lateral wall)

19.Chemically kaolin is.....—(Aluminium silicate)

20.Chemically Attapulgite is hydrated .....silicate.—(Magnesium aluminium)

21.Constant use of Liq.paraffin as lubricant laxative causes the difficiency of .....vitamins and nutrients.—(fat solublevitamin,A,D,E,K)

22.Decomposed Apomorphine solution will attain .....colour.—(Green)

23.Dioctyl sodium sulfo suxinate is otherwise called as .....—(Docusate sodium)

24.Difenoxin (active metabolite of Diphenoxylate) is a ……..derivative used to control diarrhea.—(meperidine)

25.Effervescent sodium phosphate consist of sodium ....., tartaric acid and .....acid.—(sod. phosphate, citric acid)

26.Elfazepam is a benzodiazepine compound significantly increase ……in cattle and sheeps.—(feed intake)

27.Eventhough tannic acid is mainly used as an astringent, 1.5% tannic acid in glycerine is used as glycerinum acid tannicum for dressing .....in Foot and Mouth infection.—(oral ulcer)

28.Fatty infiltration of liver can be prevented by .....--(Choline)

29.Full effect of simple bulk purgatives may not be achieved until .....days of medication.—(2—3 days)

30.Food with good taste and smell increases the appetite, that reflex which cause is called as.....reflex.—(Psychic)

31.Gentian is the root of a plant named .....—(*Gentiana leutea*)

32.Gentian is otherwise known as .....—(Picrorrhiza)

33.Gastric antacids are employed in.....and ..... –(Hyperchlorhydria and peptic ulcer.)

34.Gastric antacids are mainly classified in to two.....and.....,..... –(Systemic and non systemic)

35.Gluten sensitive enteropathy is reported in …….breed of dogs.-(Irish setter)

36.Hereditary copper toxicosis occurs in ……..breeds of dogs.-(Bedlington terrier)
37.Hydrated Magnesium aluminium silicate is popularly known as .....—(Attapulgite)
38.In .....hydrochloric acid can be used to promote digestion.--(Achlorhydria)
39.In achlorhydria instead of Hydrochloric acid , acid forming ammonium salt like.....can be used.—(Ammonium chloride)
40.In acute urea poisoning, to reduce ammonia production ……..can be given orally.-(vinegar/ 4-5% acetic acid)
41.Isacen is a derivative of .....which liberate deoxyphenyl isatin in the intestine.—(Phenolphalein)
42.In gastric achylia .....along with hydrochloric acid is administered to correct indigestion.—(Pepsin,
43.In ruminents posology present a problem because , up to ……% of body weight may be attributed to ruminal content.—(20)
44.Ispaghala is obtained from the unripe dried seeds of ……--(*Plantago ovata*)
45.Irritant purgatives are otherwise called as .....purgatives.—(Stimulant)
46.Kino is the juice from the tree .....—(*Pterocarpus marsupius*)
47.Krameria used to treat diarrhea, is the dried root of a plant called ..... .—(*Kramaria triandra*)
48.Lactulose is a synthetic disaccharide and it is an analog of .....—(Lactose)
49.Lubiprostone is a prostaglandin ……..derivative with preferential activity on G.I.tract.-(E1)
50.Magnesium sulfate is otherwise known as .....—(Epsom salt)
51.Magnesium sulfate is best administered in small animals as a mixture called .....—(Mist alba)
52.Mist. alba consist of Magnesium sulfate and .....—(Magnesium carbonate.)
53.Magnesium sulfate can be given at a dose of .....gm as a purgative in cattle.—(250—500)
54.With magnesium sulphate purging action is seen in ……hours after oral dosing in monogastric and …….hrs in ruminants.—(3-12 and 12-18)
55.Potassium sodium tartarate is otherwise known as .....salt.—(Rochelle)
56.Promethazine is the first generation H1 receptor antagonist of ……class.-(phenothiazine)
57.Radiation causes vomition by stimulation of .....—(Chemo receptor trigger zone)
58.Root of Ipecacuanha is otherwise known as .....root.—(Brazil)
59.Rheubarb is obtained from the plant.....—(*Rheum officinale*)
60.Salicylates are hydrocholaretics that will increase the flow of bile of .....Sp.gravity.-(low)
61.Saline bulk will act within .....hrs. in simple stomach animals and .....hrs, in ruminants.—(3 to 12, 18)
62.Senna is prepared from the dried leaf of ……plant.-(*Senna alexandrina*)
63.Sodium bicarbonate is an ..... stomachic.—(Alkaline)
64.Sodium sulfate is otherwise called as .....salt—(Glaubers)
65.Sterculia is a simple bulk purgative obtained from the plant……..-(*Sterculia urens/ S.tragacanth*)
66.Stimulation of vagus causes the release of .....in to circulation, which stimulate parietal cells.—(Gastrin)
67.Sulphasalazine is broken down in the gut to sulfapyridine and .....—(5- aminosalicylic acid)
68.Substances causing contraction of gall bladder are called as ……..—(cholagogues)
69.Substances that stimulate the secretion of bile by the hepatocytes are known as ……. .—(choleretics)
70.Tannic acid is obtained from ……. tree .—*(Rhus semialata/ Quercus infectoria*.)

71.Tr. Quassia is prepared out of .....(part) of the plant, and is used as a bitter-(bark)
72.Tr. Ipecacu is primarily used as an .....and.....—(Emetic & Expectorant)
73.To synthesise ……vitamine in the rumen cobalt is generally added to
74.mineral mixture for ruminents.(B12)

75.The active principle present in Gentian is a glycoside named .....—(Gentiopicrin)
76.The active constituent of emodin cathartic is .....—(Anthraquinone)
77.The .....in Rheubarb give colour to urine in treated animals.—(Chrysophanic acid)
78.The characteristic colour of urine in emodin treated animal is due to the presence of .....—(Chrysophanic acid)
79.The active constituent of catechu is .....—(Tannic acid)
80.The common name of Aluminium silicate is.....—(Kaolin)
81.The active ingredient of Kino is .....which can be used to treat diarrhoea. —(Kino tannic acid)
82.The commercial source of tannic acid is nut galls of .....tree.—(Oak)
83.The CNS action of magnesium sulphate can be reversed by i/v administration of …….—(Calcium)
84.The prolonged action of metoclopramide can be blocked by ……..-(Atropine)
85.To synthesise ……..vitamin in the rumen minute amount of cobalt is generally added to the ration of ruminants.—(Cyano cobalamine/ B12)
86.Urea .....mg/kg and above may be toxic in ruminants.--(250)
87.When castor oil is administered the active chemical .....is formed in the Intestine ,which cause purgation. —(sodium ricinolate)
88.....part of *Jaterrhiza calumba* is used for the preparation of Tr. Calumba.—(Underground stem)
89.....is a histamine analogue.—(Betazole)
90.....is a decapeptide from the skin of Australian frog ,which has properties of Gastrin and CCK-Pancreozymin in mammals.—(Ceruletide)
91.....an amylolytic enzyme is used to reduce gas production from soluble carbohydrates.—(Diastase)
92.....is a bile absorbent.—(cholestyramine resin)
93.....agents are those which remove fat from liver or reduce its deposition in the liver.—(Lipotropic)
94.....pneumonia is one of the side effect of using Liq. Paraffin as lubricant laxative.—(Lipid)
95.…….is a basic aluminium salt of sucrose octasulphate.-(Sucralfate)

IV.Odd one out, give your reasons:

1.Ginger , camphor, Menthol, Cardomum, Asafoetida---(Asafoetida) all are carminatives but asafetida is having antizymotic action also.

2.Asafoetida, Ol turpentine , Formaldehyde , Cardomum ---(Cardomum) all are anti zymotic except Cardomum.

3.Pepsin, Pancreatin, Pancreolipase, Rennin, Monensin—(Monensin)All are digestants except Monensin which affect the pattern of fermentation in rumen.

4.Crude extract of Ox bile, Dihydrocholic acid , Sod.dehydrocholate , Florantyrone, Mag. Sulphate --(Mag. Sulphate) it is a cholagogue others are cholaretics.

5.Tannic acid, Gallic acid, Catechu, Copper sulphate ---(Copper sulphate) It is the only metallic astringent in this group others are astringents of plant origin.

6. Catechu, Creta, Kino, Tannic acid, Gallic acid ----(Creta) All are having astringent action and control diarrhea except creta which form a coating over the intestinal m.m. and control diarrhea

7.Atropine, Homatropine, Scopolamine, Methanthiline, Dicyclomin, Calcium carbonate—(Calcium carbonate) Only antidiarrheal agent others are parasympatholytic agents which modulate intestinal motility.

8.Strychnine, Chireta, Calumba, Syrup---(Syrup)all are bitter stomachic except syrup which is a demulcent.

9. Strychnine, Anethole, Pilocarpine , Arecoline. (Anethole) All are alkaloidal stimulant of salivary secretion anethole is a synthetic compound which increase saliva.

10.Syrup, Honey, Sugar, Liquid parafin –Liquid paraffin) All are useful as a demulcent internally except liquid paraffin which is a lubricant laxative internally.

11 Sodium perborate, Cetyl pyridinium,,Hexitidine, Phenol---(Phenol) All are internally used bucco- pharyngeal antiseptic except phenol which is an externally used antiseptic.

12. Calumba, Quassia, Chireta, Strychnine.---(Strychnine) Strychnine is the alkaloidal bitter others are simple bitters.

13.Calumba, Quassia, Orange, Ginger---(Calumba) Calumba is simple bitter others are aromatic bitter.

14. Burimamide, Cimetidine, Propantheline, Ranitidine—(Propantheline) All are H2 antagonist except propantheline which is an anticholinergic agent.

15.Common salt, Copper sulphate, Zinc sulphate, Apomorphine---(Apomorphine) All are locally active emetic except Apomorphine which is a centrally active on

16.Apomorphine, Copper sulphate, Ipecacu , Promethacine theoclate---(Promethacine theoclate) Promethacine is anti emetic others are emetics

17.Chlorpromazine, Triflupromazine, Promethazine theoclate, Droperidol ---(Droperidol) Droperidol is a butyrophenon derivative anti emetic others are phenothiazine derivative.

18.Magnesium carbonate, Mag. hydroxide, Mag. Trisilicate ,Mag. Sulphate, ----(Mags. ulphate) Mags .sulph is a purgative others are antacids.

19.Cimetidine, Al.hydroxide, Mag.hydroxide, Mag carbonate---(Cimetidine)Cimetidine is an H2 antagonist preventing the acid secretion, others will neutralize the acid in the stomach.

20.Omeprazole, Cimetidine, Ranitidine, Famotidine---(Omeprazole) Omeprazole is a proton pump inhibitor and prevent acid secretion, others are H2 antagonist preventing the acid secretion.

21.Cotton seed oil, Corn oil, Olive oil, Boiled linseed oil. -(Boiled linseed oil) All can be recommended as lubricant laxative except boiled linseed oil which may contain added lead.

22.Bran , Fruits, Agar, Tragacanth, Mag.sulphate.----(Mag.sulph) Mag.sulph is a saline bulk purgative others are simple bulk.

23.Mag. Sulphate, Sodium sulphate, Potassium`1 sodium tartrate, polycarbophil---((Polycarbophil) it is a simple bulk laxative others are saline bulk purgative.

24. Epsom salt, Glaubers salt, Rochelle salt, Common salt---(Common salt) All are saline bulk purgative except common salt.

25.Castor oil, Arachis oil, Croton oil, Mineral oil---(Mineral oil) Mineral oil from earth and is a lubricant laxative others are irritant purgatives from plants

26.Aloes, Rheubarb, Senna, Castor oil ---(Castor oil) Castor oil is a direct irritant and others are indirect irritant purgative.

27. Aloes, Rheubarb, Senna, Dihydroxy anthraquinone---(Dihydroxy anthraquinone) It is a synthetic emodin catharetic others are natural emodin cathartics.

28.Arecoline, Pilocarpine, physostigmine, Carbamyl choline.—(Carbamyl choline) it is a synthetic neuromuscular purgative others are natural alkaloids.

V.Choose the correct answers from the given ones:

1.A drug that is used as a cytoprotectant in peptic ulcer. A) aspirin b) cimetidin c) misoprostol d) omeprazole.—(c)

2.Anti muscarinics such as …….can be used as an antisialagogues. a) pilocarpine b) atropine c) both d) none of them .—(b)

3.An opiate analogue with its action limited to gut, which is recommended in diarrhea is a) loperamide b)butorphanol c) domperidone d) meperidine.-(a)

4.A drug which inhibits proton pump in parietal cells is a) famotidine b) ranitidine c) omeprazole d) diazepam .-(c)

5.An agent which is ineffective in producing closure of oesophageal groove in calf is a) water b) milk c) 10% sodium bicarbonate d) 5% copper sulphate.—(a)

6.Alimentary demulcents are used a) to mask the unpleasant taste b) to stabilize emulsion c) as a suspending agent d) all the above.-(d)

7.As an antacids among magnesium and aluminium salt a) neutralizing capacity is more for magnesium salt b) neutralizing capacity is more for aluminium salt c) both are equal d) not known yet.-(b)

8.Astringents usually are: a) salts of light metal b) organic salt c) salts of heavy metals d) activated charcoal—(c)

9.Abomasal displacement occur mostly in a) middle aged dairy cow b) heifers c)during parturition d) none of the above.-(a)

10.Bitter stomachic must be administered a) half an hour before food b) along with food c) no time to be observed d) one hour after food.—(a)

11.Bile salt is involved in a) absorption of calcium b) prevent excessive growth of coliforms c) serves as an emulsifying agent d) all the above.-(d)

12.Based on mechanism of action purgatives are classified in to a) mechanical lubricant laxatives b) neuromuscular purgatives c) bulk purgatives d) drastic purgatives e) Irritant purgatives e) all the above except drastic purgatives.----(e)

13.Ceruletide is a decapeptide having CCK –pancreozymine action. a) Isolated from skin of Australian frog b) promote the liberation of secretin c) promote the relaxation of gall bladder d) all the above.-(a)

14.Constant use of lubricant laxatives can cause a) Defficiency of vit. A,D,E, and K because of lack of absorption b) chronic constipation because of reduction in normal irritability c) passage of oil through the anus d) all the above.—(d)

15.Following drugs are relatively specific to stimulate Gastric juice via H2 receptors.
a) histamine b) acetyl choline c) pyrazole thylamine d) none of the above.-(c)

16.Chemoreceptor trigger zone is not involved in the emesis caused by a) Apomorphine b) morphine c) copper sulphate d) ergot alkaloids –-(c)

17.Dihydroxy anthraquinon is a a) synthetic emodin cathartic b) laxative c) para sympathomimetic d) all the above.-(a)

18.Emetic centre located in the lateral reticular formation of medulla can be stimulated by a) Impulses originating from semicircular canals b) stimulation from visceral organs like uterus c) Stimuli from chemoreceptor trigger zone d) all the above-- .(d)

19.Chemoreceptor trigger zone is stimulated by a) Nor adrenaline b) Acetyl choline c) Dopamine d) none of the above.—(c)

20.Emetics can be used in case of a) poisoning due to drugs and chemicals via mouth b) Acute indigestion due to excessive consumption of food c) both the above --- (c)

21.Emetic centre is associated with a) Adrenergic receptors b) Cholinergic receptors c) Muscarinic receptor d) Nicotinic receptors e) none of the above---(c)

22.Fat reduces the gastric juice secretion. a) by blocking the stimulation of sensory nerve endings b) because of psychic reason c) causes the liberation of enterogastrin d) none of the above.-(c)

23.Following drug is a centrally acting emetic. a) Apomorphine b) common salt c) Copper sulphate d) Zinc sulphate----(a)

24.Following agents are locally acting emetics. a) Demulcents drinks like rice gruel b) Gastric astringents like pectin c) Local sedative like Chloretone d) all the above.---(d)

25.Following drugs can be used as anti frothing agent. a) Methyl silicon, b) Poly ethylene glycol c) Dioctyl sodium sulphosuccinate d) All the above ----(d)

26. Following agents can be used as lipotropic drugs. a) Choline b) Methionine c) Betaine d) Inocitol e) All the above -----(e)

27.Following agents stimulates the motility of rumen .a) carbachol b) physostigmine c) neostigmine d) all the above.-(d)

28. Following drugs can be recommended in peptic ulcer a) Ranitidine b) Sucralfate c) Omiprazole d) Diclofenac e) all the above f) all the above except diclofenac.-- (f)

29.Gastric secretion can be stimulated by a) gastrin analogues-pentagastrin b) histamine and its analogues eg. Betazole c) stomachics, alkaloids, and cholinergic stimulants like neostigmin. d) all the above.-(d)

30.Gastric acid secretion can be inhibited by a) H2 receptor antagonists like ranitidine b) proton pump inhibition like omiprazole c) muscarinic receptor antagonist like propanthelin d) prostaglandin analogue like misprostol. e) all the above.—(e)

31.Haloperidol is a powerful emetic. a) it is having antidopaminergic action b) causes behavioural changes in animals c) not recommended in vet. Practice d) all the above. –(d)

32.It is best not to administer any other drugs with in .....hours of oral antacid administration. a) One to Two hours b) Half an hour c) One hour, d) Six hour.—(a)

33.In Foot and Mouth disease following alimentary demulcents can be recommended a) zingiberis b) plant hydrocolloids c) creta d) all the above .-(b)

34.In E.coli diarrhea one of the following is more preferred a) bismuth salt b) copper salt c) creta d) none of the above (a)

35.In ruminants the volatile fatty acids from carbohydrates mainly induces a) acetic acid b) propionic acid c) butyric acid d) all the above.-(d)

36.In tympany the carminatives and antizymotics are recommended. A) carminatives will expel gas b) antizymotics will prevent gas production c) both will relieve colic and flatulence d) all are correct.-(d)

37.Lipotropic agents increases the mobilization of hepatic lipid . some of them are a) vitamin E b) selenium c) cynocobalamine d) none of the above.-(c)

38.Loperamide is a motility inhibiting drugs having a) rapid onset of action b) long duration of action c) inhibit cholera toxin induced secretion d) all the above.-(d)

39.Loperamide is an antidiarrhoeal drugs a) reduce the secretion b) reduce irritation c) reduce motility d) all the above.-(c)

40.One of the following drug is a proton pump inhibitor a) Cimetidine b) Pantoprazole c) Carbenoxolone d) Burimamide----(b)

41.One of the following drug is an Antizymotic a) Ginger b) Camphor c) Cardomum d)Asafoetida----(d)

42.One of the following drug is an aromatic bitter. a) Nuxvomica b) Chiretta c) Calumba d) Ginger.—(d)

43.One of the following is an emetic of plant origin a) Copper sulphate b) Ipecacu c) Zinc sulphate d) Common salt—(b)

44.One of the following will block the emetic action due to Apomorphine a) Rice gruel b) Honey c) Spiroperidol d) Syrup---(c)

45.One of the following is an adsorbent a) Creta b) Activated charcoal c) Catechu d) Gallic acid ---(b)

46.One of the following is not a centrally acting emetic. a) Diphen hydramine b) Chlorpromazine c) cocaine d) promethacine theoclate---(d)

47. One of the following is a butyrophenone derivative antiemetic a) Triflupromazine b) Chlorpromazine c) Haloperidol d) none of the above---(c)

48.One of the following is an astringent used to control diarrhea. a) Creta b) Kaolin, c) Attapulgite d) Catechu---(d)

49.Out of the following drugs which one is having greater gastric inhibitory properties. a)Ranitidine b) Cimetidine c) Famotidine d) all the above.—(c)

50.Pentagastrin will act on the GI tract, a) it is produced as a result of histamine release b) it is a synthetic product c) produced as a result of stimulation of pyloric glands d) all the above.-(b)

51.Pepsin is more active in an a) acidic medium b) alkaline medium c) neutral medium.-(a)

52.Radiotherapy of buccal cavity causes a) xerostomia b) sialagogue c) thirst d) none of the above.-(a)

53.Polycarbophil is a hydrophilic agent used in a) diarrhea and constipation b) intestinal irritation c) hyper motility d) none of the above.-(a)

54.Rumination increases the salivary secretion and a) it does not contain digestive enzymes b) it act as a buffer in the rumen c) it reduce surface tension d) all the above.-(d)

55.Sudden increase in concentrate feed intake causes a) ruminal acidosis b) ruminal alkalosis c) abomasal displacement d) none of the above.-(a)

56.Systemic antacids have influence on drug excretion.a) it will accelerate the excretion of acidic drugs b) it will decrease the excretion of acidic drugs c) it will accelerate the excretion of basic drugs d) none of the above.-(a)

57.Tanic acid is a good example of: a) demulcents b) astringents c) keratolytics d) emollient.—(b)

58.Tanic acid is an astringent which protect the intestinal mucosa from the irritants a) it as such will protect b) protein tanate will protect c) tanic acid with metal ion will protect d) none of the above.-(b)

59.The following drugs have rumenotoric action. a) chireta b) antimony pot. Tartrate c) zingiberis d) all the above .-(b)

60.The following drugs can be used in small animals as appetite stimulants a) palatable food b) diazepam c) cyproheptadine d) gluco corticoids e) all the above. –(e)

61.The elimination of poisons from GI tract requires administration of cathartic with rapid onset of action which one of the following will be selected.a) senna b) methyl cellulose c) magnesium sulphate d) docusate.-(c)

62.The zest for food can be improved by a) bitters b) antidepressants c) tranquilizers d) all the above .-(d)

63.The main cause of secondary ketosis is a) high milk yield b) late pregnancy c) inadequate diet d) all the above.-(c)

64.The purgative action of Epsom salt is less reliable in a) Dogs b) Cattle c) Horse d) Rabbits..—(c)

65.The following drug can be used as prokinetic. a) cisapride b) metoclopramide c) ranitidine d) all the above –(d)

66.The most frequently seen adverse effect of prostaglandin inhibitors a) agranulocytosis b) gastric ulcer c) anaemia d) hepatitis.-(b)

67.The NSAID used for the alleviation of visceral pain associated with colic in horse is a) flunexin meglumine b) phenyl butazone c) aspirin d) meclofenamic acid -(a)

68.The following drugs are antioxidant. a) Vitamin C b) Vitamin E c) Silymarin d) S-adenosyl –methionin. e) all the above. –(e)

69.Which one of the following statement is not true?
a) psychic stimulation like good smell of food can stimulate salivation . b) mechanical stimulation like presence of tasty food in front of you can stimulate salivation. c)bitter substances like strychnine can stimulate salivation.---(b)

VI. Write the mechanism of action of the following.

1.Metoclopramide as an antiemetic? It have both central and peripheral antiemetic action. Central action due to blockade of dopamine (D2) receptors in the CRTZ and at higher doses it inhibit serotonin receptors (5-HT4) also. Its peripheral action is due to stimulation of the motility of the stomach and duodenum via increased smooth muscle sensitivity to acetyl choline thus prevent the gastric atony required for the vomiting reflex and ejection of gastric content.

2.Antihistaminics as anti-emetics? These blocks histaminergic and cholinergic afferent from the vestibular organs to vomiting center. –more useful in preventing motion sickness.

3.Anticholinergics as anti-emetics? These blocks the cholinergic afferents from the G I tract to the vomiting center-generally used along with phenothiazines.

4.Anti serotonergic agents as anti-emetics?(Ondansetron, Dalasetron) I nhibits serotonin type 3 (5-HT 3) receptors located peripherally on vagal nerve and centrally in the CRTZ thereby block neurotransmission by closing sodium channel. Anti-neoplastic drug therapy damages the G.I. mucosa which results in the release of serotonin and emesis.

5.Neurokinin receptor antagonist (NK1) as anti-emetics? (Eg. Maropitant) It is an NK1 receptor antagonist which is located in the vomiting center. Blocks neurotransmission of afferent emetic signals from the GI tract and other abdominal organs.

6.Sulphasalazine as an anti ulcerogenic agent? Sulfasalazine consist of sulfapyridine plus 5 – amino salicylic acid (5 ASA). Sulfasalazine is cleaved by bacteria in the large bowel to release sulfapyridine and salicylate. The anti-inflammatory effect of salicylate on the bowel mucosa are considered to be primarily responsible. Salicylates act by inhibiting prostaglandin synthesis and the effects of pro inflammatory leukotrienes in the colon mucosa. Sulphapyridine is antibacterial.

7.Zinc gluconate or acetate is used as an anticopper medication, How it acts? It induce metallothioneine in erythrocytes. This binds with copper and prevent its absorption. It is sequesterated with in the erythrocyte and shed in to intestinal lumen.

VII.Match the following:

A	**B**
1. Xerostomia	Bark of Cinchona—(10)
2. Sialagogues	Tr.nuxvomica----(9)
3. Anti sialagogues	Tr. Orange-----(8)
4. Alimentary demulcents	Anorexigenic agent—(11)
5. Prokinetic	Chireta----------(7)
6. Alkaline stomachic	Cimetidine--------(12)
7. Bitter stomachic	Locally acting emetics—(13)

8. Aromatic bitter	Centrally acting emetic—(14)
9. Alkaloidal bitter	Emetine.....(15)
10.Quinine	Syrup----------(4)
11.Dexamphetamin	Perinorm----------(5)
12.H2 antagonist	Glycopyrolate.....(3)
13.Copper sulphate	Sod. bicarbonate.....(6)
14.Apomorphine	Anethole.....(2)
15.Tr.Ipecacu	Dryness of mouth----(!).

A	B
1. Apomorphine	Relax sphincture of Oddi—(11)
2. Ipecacu	Increase surface tension—(12)
3. Demulcents	Australian frog---(10)
4. Pectin	Stimulate rumen contraction—(13)
5. Antacids	Trypsin----------(14)
6. Chloretone	Antimuscarinic antiemetic—(7)
7. Dicyclomin	Phenothiazine antiemetic---(8)
8. Chlorpromazine	Butyrophenon antiemetic---(9)
9. Haloperidol	Sodium bicarbonate---(5)
10. Ceruletide	Gastric sedative-----(6)
11. Cholagogues	Gastric astringents—(4)
12. Methyl silicon	Honey....(3)
13.Ketanserin	Dopamine receptor..(1)
14.Pancreatin	Brazil root.---(2)

A	B
1. Xerostomia	Betazole hydrochloride---(7)
2. Bitter stomachic	Aromattic bitter---(9)
3. Sympathetic stimulants	Calumba---(8)
4. Parasympathetic strimulants	Dicyclomin---(11)
5. Glycopyrolate	Dexamphetamine---(12)
6. Starch	Antistomachic---(10)
7. Achlorhydria	Limbic pathway---(13)
8. Simple bitter	Lateral wall of third ventricle-(14)
9. Ginger	Radiotherapy---(1)
10.Burimamide	Alimentary demulcents---(6)
11. Anticholinergic	Scanty saliva----(4)
12. Anorexigenic agent	Muscarinic blocker---(5)
13. Head injury emesis	Viscid saliva----(3)
14. Chemoreceptor trigger zone	Nuxvomica---(2)

A	B
1. Phenolphthalein	Calcium carbonate—(6)
2. *Aloe vera*	Glycyrrhizic acid---(9)
3. Senna	Aluminium silicate—(8)
4. Arecoline	Adsorbent—(7)
5. Barium chloride	*Cassia angustifolia*—(3)

6. Creta	Parasympathomimetic—(4)
7. Activated charcoal	Drastic purgative—(5)
8. Kaolin	Emodin cathartics—(2)
9. Carbenoxolone sodium	Contact purgative.—(1)

A	B
1. Adsorbent	Stimulate rumen contraction—(12)
2. Chloretone	Serotonin2 antagonist—(13)
3. Vegetable astringent	Alter rumen fermentation—(14)
4. Metalic astringent	Carminative—(9)
5. Anti-diarrhoeal	Complete anti emetic—(8)
6. Diphen hydramine	Anti frothing agent—(11)
7. Promethazine theoclate	Tr.Asafoetida—(10)
8. Diphenidol	Central anti emetic—(6)
9. Cardomum	Antiemetic---(7)
10. Anti-zymotic	Ferrous sulphate—(4)
11. Methyl silicon	Catechu------(3)
12. Ketanserin	Calcium carbonate—(5)
13. Ritanserin	Activated carbon—(1)
14. Monensin	Local gastric sedative.(2)

A	B
1. Cholagogue	Indirect irritant ourgative—(10)
2. Choleretic	Bulk purgative-----(8)
3. Ceruletide	Glaubers salt----(9)
4. Choline	Magnesium sulphate—(1)
5. Aluminium hydroxide	Bile salts--------(2)
6. Mineral oil	CCK pancreozymine-(3)
7. Docusate sodium	Liver protectants.....(4)
8. Bran	Fecal softening agent—(7)
9. Sodium sulphate	Lubricant laxative---(6)
10.Rheubarb	Antacids-------(5)

VIII.Define/explain in 1-2 sentence-

1.Antizymotics: Drugs that will suppress bacterial or enzymatic fermentation in the stomach and prevent gas production.

2.Alimentary demulcents: Alimentary demulcents are compounds generally with high molecular weight and often water soluble , form a coating ,lubricate and protect the upper alimentary mucous membranes.

3.Cholaretics**:** Cholaretics are agents which stimulate liver to increase the output of bile
.

4.Cholagogues: Cholagogues or cholekinetic are agents which causes contraction of gall bladder and stimulate release of bile by bladder contraction ., resistance of sphincture of Oddi is reduced results in flow of bile into duodenum.

5.Carminatives: Aromatic drugs that are used to expel gas from stomach and intestine for relief of colic and flatulence, relax cardia sphincture for 30 min.

6.Cathartics: Drugs that causes marked intensification of intestinal activity resulting in expulsion of intestinal content.

7.Fecal softening agents-Pharmacologically inert- reduce surface tension, facilitate mixing of water and fatty substances in fecal mass to form soft faeces.

8.Prokinetics: Agents regulate the tone and amplitude of gastric contraction-relax pyloric sphincter-promote peristalsis in the duodenum and jejunum-accelerate gastric emptying.

9.Systemic antacids: Antacids which are absorbed in to the system and alter the acid base balance of the body

10.Silagogues: Silagogues are agents which increase the fluidity and volume of saliva.

11.Stomachics: Stomachics are agents which stimulate the functional activity of stomach by increasing secretion and motility and there by zest for food.

IX.Answer the following.

1. How benzodiazepins stimulate appetite? Benzodiazepins will suppress the satiety center in the hypothalamus and thereby stimulate appetite.

2.How Cyproheptadine stimulate the appetite Cyproheptadine is a serotonin antagonist which suppresses the satiety center which stimulate appetite.

3.How domperidone act as prokinetic? Dopamine antagonise D2 receptor in stomach and initiate prokinetic activity.

4.How proton pump inhibitors inhibit acid secretion? Proton pump inhibitors inhibit the H^+ / K^+ ATPase on the luminal membranes of parietal cells and thus reduce acid production.

5.How Misprostol promote healing? Misprostol directly inhibit gastric acid secretion by parietal cells. It facilitate PGE mediated mucosal defense and healing.

6. How dirlotapide act as an anti obesity agent? Dirlotapide is a selective microsomal triglyceride transfer protein (MPT) inhibitor that blocks the assembly and release of lipoprotein particles in to the blood stream (via lymphatic system) in dogs .It also suppress appetite and reduce fat absorption results in weight loss.

7.How Erythromycin act as a prokinetic? Erythromycin stimulate GI motility similar to that of G.I hormone ' motilin' directly acting via motilin receptor activation in cats and indirect cholinergic and neurokinin activation in dogs.

8.How phenothiazine tranquilizers exert their antiemetic action? It blocks the dopamine (D2) receptors in the CRTZ and at higher dose the vomiting center.

9.How astringents reduce diarrhea? When astringents come in contact with cell surface protein it is coagulated- a thin layer is formed –act as a barrier between irritant and tissues-impermeable to passage of fluids-the process will not destroy cells-vascular constriction also occurs at the site- mucous secretion, irritation and inflammation reduce.

10.How can we close the oesophagial groove? Can be closed in calves and lambs with milk. Sodium bicarbonate 10% solution can close the groove in calves. Copper sulfate 5% can be used for calves and 2% can be used for lambs.

11.What is the mechanism of action of cisapride on GI tract? Cisapride is acting as a prokinetic . It act by enhancing the release of Acetyl choline at the myenteric plexes. It also block dopaminergic receptors. Stimulate GI motility from lower oesophagial sphincture-stimulate (LES) to the decending colon.

12. catechu is preferred in the treatment of diarrhea than tannic acid? Because catechu tannic acid from catechu is released slowly thereby reducing its toxicity and increase duration of action. That is why it is preferred.

13.What is the composition of ORS.-Sodium chloride.-3.5g/lit, potassium chloride 1.5 g/lit, Sodium citrate 2.9 g/lit, and glucose 20g/lit.

14.As an antacid Aluminium hydroxide is administered along with Magnesium hydroxide.Why? Aluminium hydroxide has the side effect of possessing constipatory actin. While Magnesium hydroxide possess a laxative action- when used together those side effects will be counteracted and antacid action will remain.

15. linseed oil should not be used as a laxative .Why?-It contain lead oxide which is a toxic metal ,added during the heating to increase its drying property for use in paints.

16.What are the most serious effecst of phenothiazines as an antiemetic agent? Hypotension and bradycardia due to alpha adrenergic blockade.

17.Surface active agents should not be administered with mineral oil or anthraquinone purgatives. Why? It stimulate the absorption of the later two.

18.What are simple bulk purgatives**?** Simple bulk purgatives are natural or synthetic polysaccharide and cellulose derivatives that dissolve or swells in water to form emollient gel or viscous solution that stimulate evacuation.

19.What is tannic acid? It is the active constituent of Catechu which is obtained from nutgalls , Oak tree-by cutting the nut galls secretion will come out of the bark-it is collected and fermented-tannic acid is isolated from it.

20.What is the mechanism of action of fecal softening agents-(Docusate sodium) they are mostly anionic surface active agents –reduce surface tension and allow water and fat to penetrate the ingesta and formed faeces will be soft.

21.What are adsorbents? They are insoluble fine powder- coat over mucosa-adsorb toxins, gases and bacteria. eg. Activated charcoal, Kaolin, Attapulgite.

22.What are saline bulk purgatives? Saline bulk purgatives are poorly absorbed ion such as Magnesium (cation) ,sulphate, phosphate, tartarate (anion) .These salts are slowly and incompletely absorbed from G.I.Tract-draw water from tissues in to lumen and increase the bulk.

23.How dietary fat exert cholagogue action? Fat stimulate the release of CCK pancreozymine (cholycystokinin) from upper small intestine stimulate the motility of gall bladder.

24.What are the disadvantages of lubricant laxatives? a) Coating of lubricant laxatives prevent contact with food in the intestine-absorption is hindered specially fat soluble vitamins, protein, carbohydrate, fat, calcium, phosphorus etc. b) Chronic constipation-coating of this reduce the effect of an irritant action of faeces ,this reduce the irritability and further aggravate the condition. c) oil may pass through the anal sphincter in small amount.

25.What is meant by acid rebound? Use of bicarbonate as antacid orally causes the production of carbon dioxide as one of the end product. This carbon dioxide causes the distension of stomach and in turn causes reflex increase in acid secretion again this is called acid rebound.

26.What is the difference between cathartics and laxatives? Cathartics produce more fluidy stool evacuation, laxatives promote the elimination of soft formed stool.

27.Why sodium bicarbonate will give only temporary relief from acidity ?
When we use sodium bicarbonate as an antacid, carbondioxide is released in the stomach which causes distension of stomach in turn causes the release of acid again.

28.What are suppositories? Agents introduced in to the rectum with the purpose of evacuation of bowel-it generally contain sod. Acid phosphate, sod. Bicarbonate in an inert base .On contact with moister it liberate carbon dioxide which stimulate bowel by distension.

29.What are the indications of laxatives? To relieve severe constipation/ fecal impaction , to enhance motility of G.I tract to eliminate poisons , to evacuate large bowel prior to surgery.

30.What are hyper osmotic laxatives? They are non absorbable/ poorly absorbable salt which osmotically retain water in the intestinal lumen. Lactulose, polyethylene glycols, magnesium sulfate.-increase the miscibility of water and lipid ingredients

31.What are bulk laxatives- poorly digestible polysaccharide which absorb water and increase fecal bulk . results in stimulation of large bowel peristalsis Eg. Methyl cellulose, wheat bran, psyllium.

32.What is the mechanism of action of stimulant /irritant purgative? Irritant purgatives inhibits Na+ K+ ATPase at the basolateral membrane of villa and so reduce the net absorption of electrolytes and water . In addition they increase the permeability of mucosa by making tight junction leaky.

33.Classify laxatives and cathartics depending on their mode of action.-1. Lubricant laxatives- liquid paraffin 2) Surfactant laxatives-docusate sodium , poloxamers. 3) Simple bulk purgatives- bran, agar. 4) Osmotic purgatives. inorganic salts like magnesium sulphate, sodium sulphate. Carbohydrate osmotic purgatives like lactulose, sorbitol. 5) irritant / stimulant purgatives, a) direct irritant purgatives diphenyl methanes- bisacodyl and phenolphthalein, inorganic compounds-mercurous chloride and sulphur b) indirect irritant purgatives –vegitable oils like castor oil,anthracene purgatives like aloes, drastic irritant purgative like jalap. 6) neuromuscular purgatives like carbachol. 7) peripheral opioid antagonist like alvimopan 8) prostanoids like lubiprostone. 9) Enemas-soap water.

34.Explain the mechanism of action of lubiprostone as a laxative? Lubiprostone specifically activate chloride channel protein-2 (CIC-2) chloride channel on the apical aspect of G.I.epithelial cells produce a chloride rich fluid secretion. An efflux of chloride ion in to lumen leads to an efflux of sodium ion also to maintain isoelectric neutrality. Water follows sodium in to lumen to maintain isotonicity- increase intestinal fluid and soften stool.

35.Why antacids should not be given along with sucralfate? because polymerization of sucralfate ,which is necessary for its action depend on acidic pH which will be hindered by antacids--as a result action of sucralfate will not be there.

36.What are emollient laxatives? They are anionic detergents , dioctyl sodium sulfo succinate, dioctyl calcium sulfo succinate- reduce surface tension promote evacuation.

37.What are the side effect of neuromuscular purgatives? If we are administering neuromuscular purgatives it produce immediate discomfort in animals, kick at the flank ,lie-down and getup, uneasiness, roll on ground, may lead to torsion.

38.What are intestinal astringents? Agents which precipitate the proteins in the superficial layer of endothelial cells in the intestine. This will act as a barrier between the tissue and the irritant in the intestine Net result will be a reduction in the fluidity in the intestine and reduce diarrhea.

39.What are the actions of ursodeoxycholic acid on liver? It protect the hepatic cells from apoptosis, choleresis (induction of bile flow), suppression of hepatic synthesis and secretion of cholesterol, modulation of immune system to reduce inflammation, and increase the production of glutathione and metallothionein which prevent oxidative damage.

40.What are the actions of silymarin on liver? Silymarin is extracted from fruit of milk thistle. Inhibit lipid peroxide, betaglucuronidase, - cytotoxic action on tumor cells. It is a strong free radical scavenger by induction of cellular SOD and may increase hepatic glutathione content - decrease hepatic collagen formation.

41,Classify prokinetic with examples. 1) Dopamine (D2) receptor antagonist-metoclopramide, clebopride. 2) Serotonin (5-HT4) receptor agonist- cisapride, mosapride. 3) Motilin like drug- erythromycin. 4) Histamine (H2) receptor antagonists-ranitidine, nizatidine. 5) prostanoids-misprostol.

42.Group the following drugs as a) Bucopharygeal antiseptics, b)Demulcents, c)Antidiarrhoeal, d) Adsorbentse e) Astringents.

Creta, Tannic acid, Bismuth salts, Gallic acid, Kaolin, Catechu, Atapulgite, Syrup, Sodium perborate, Honey, Hexitidine, Glycerol, Activated charcoal,
a) Bucopharygeal anti septic: --- Sodium perborate , Hexitidine
b) Demulcents: --- Syrup, Honey, Glycerol.
c) Antidiarrhic: --- Creta, Bismuth salts
d) Adsorbrnts: --- Activated charcoal, Kaolin, Atapulgite.
e) Astringents:--- Tannic acid, Gallic acid, Catechu.

43.Classify the following drugs in to simple, aromatic and alkaloidal bitters;
Calumba, Orange, Quassia, Ginger, Nuxvomica , Chireta. Gentian, Quinine.
Simple bitters: --- Calumba, Quassia, Chireta
Aromatic bitters: --- Gentian, Orange, Ginger
Alkaloidal bitters: --- Nuxvomica, Quinine.

44.Classify irritant purgatives with examples.
I.Direct irritant : a)Oils-castor oil, b) Mercury compound-mercurus chloride, c)Sulphur-Sulphur, d)Diphenyl methane derivative-phenolphthalein, e)Ricinous –colosynth.
II. Indirect irritant : Anthracene purgatives- aloes.

45.Classify gastric secretion inhibitory agents with examples. Several groups of drugs can inhibit the secretions in hyper acidity, peptic ulcer, reflex oesophagitis, and Zollinger Ellison syndrome. a) H2 antagonists like cimetidine, ranitidine. b) proton pump inhibitors like omoprazole, pantoprazole. c) muscarinic receptor antagonists like pirenzepine and propanthelin. d) prostaglandin analogues like misprostol, rioprostil.

46.If we are administering apomorphine as an emetic ,if the first dose does not produce emesis subsequent doses are even less likely to do so. Why? Although it stimulate chemoreceptor trigger zone ,it directly depress the emetic centre- subsequent doses will depress the emetic centre more.

47.Classify antidiarrhoeal drugs with examples. I. Non specific agents: 1) GI protectants and adsorbents like- Kaolin, pectin, activated charcoal. 2) antimotility drugs –opioids like tincture opium, loperamide. 3) Antisecretory and anti inflammatory-salicylic acid derivatives like sulphasalazine, olsalazine. Anticholinergics like atropine, hyoscine miscellaneous antisecretory agents like NSAIDs, clonidine 4) Miscellaneous drugs like tannic acid, catechu. II. Specific chemotherapeutic agents –streptomycin, Enrofloxacin.

48.Classify antiemetics with examples: classified broadly in to two-centrally and peripherally acting. Centrally acting.
Peripherally/locally acting: 1) Demulcents and protectants like kaolin and pectin 2) Gastric antacids and local anaesthetics like magnesium hydroxide, benzocaine. 3) anticholinergics like glycopyrronium, propantheline.4) Prokinetics-domperidone , cisapride.
Centrally acting antiemetics: 1) H2 receptor antagonists-promethazine, cinnarizine 2) D2 receptor antagonist-phenothiazine derivatives like chlorpromazine, prochlorperazine. Butyrophenones like haloperidol, droperidol. Benzamides like metoclopramide,alizapride. 3) 5-HT3 receptor antagonists like ondansetron, granisetron. 4) Muscarinic receptor antagonists like hyoscine, aminopentamide. 5) NK1 receptor antagonists like aprepitant, maropitant. 6) Miscellaneous drugs glucocorticoids like dexamethasone, methyl prednisolone. Benzodiazepines like diazepam , midazolam. Cannabinoids like nabilon.

49.Classify Drugs used to treat hepatic disorders, give examples:
a)Glucocorticoids for chronic hepatitis-prednisone and prednisolone.
b)Antioxidants to neutralize free radicals .vitamin C, E, Silimarin, S-adenosyl –L-methionine.
c)Anti copper agents to reduce oxidative damage- D-penicillamine, Zinc gluconate.
d)Ursodeoxy cholic acid for cholestasis.
e)Anti fibrotic agent for cirrhosis.-Colchicine.
f)Hepatic encephalopathy therapy, reduce protein intake, take lactulose, metronidazole.

50.Classify laxatives with examples: Hyper osmotic laxatives eg.Magnesium sulphate, lactulose. Bulk laxatives Eg.wheat bran, methyl cellulose. Lubricant .Eg. mineral oil. Emollient laxatives are anionic detergents-Eg. Dioctyl sodium sulfosuccinate, dioctyl calcium sulfosuccinate. Irritant laxatives Eg. Castor oil, emodins.

X.Write short notes on:

1**. Antemetics:** Drugs which are used in the symptomatic treatment of vomition which is persistant useless or troublesome.
I. Locally acting-a) Demulcent drinks like rice gruel, syrups, ice crystals.b) Gastric astringents and protectives like Kaolin, pectin, bismuth salts, creta preparata.c)Antacids in hyper acidity d) Local gastric sedatives like Chloretone, cocaine,butacaine. NK 1 receptor antagonists- Maropitant.
II. Centrally acting agents- either block the dopaminergic receptor in CTZ or suppress emetic centre in medulla.a)Central sedatives like Barbiturates, chloral hydras. b) Antihistaminics-Diphenhydramine, promethazine , meclizine c) Phenothiazine derivatives- chlorpromazine, triflupromazine. Phenothiazins block D2 receptors in CTZ and at higher dose vomiting center, ineffective in motion sickness and inflammation of G.I tract. d) Butyrophenon derivatives-Haloperidol e) Antimuscarinics-Atropine, dicyclomin. f) antiserotonergic-ondansetron, dolasetron.good in cancer therapy induced emesis- block type 3 (5-HT3)

2.**Alimentary demulcents:** Compounds that are generally with high molecular weight and often water soluble – they coat and lubricate and protect the upper alimentary mucous membrane-used to mask unpleasant taste as a stabilizer of emulsion , as a suspending agent-syrups, honey, starch, glycerol, plant hydrocolloids such as gum tragacanth, agar, glycyrrhiza, methyl cellulose, polyethylene glycols, liquid paraffin, egg albumin, gelatin.

3.**Anti diarrhoeal agents:** Agents which control diarrhea with out astringent action, They include a) Protectants and adsorbents-Bismuth carbonate, Creta, Kaolin, Attapulgite, Pectin, Activated charcoal. Creta (calcium carbonate) form a smooth coating over the mucous membrane and give mechanical protection- Kaolin(aluminium silicate) same action-Attapulgite –Hydrated magnesium aluminium silicate- same action as creta. Bismuth carbonate form a smooth coating and adsorb toxins. Activated charcoal- adsorb gases, toxins, bacteria, drugs and control diarrhea. Pectin –purified carbohydrate – provide unfavorable condition for the bacterial growth and control diarrhea. b)Motility modifying drugs-Opium is having anti diarrhoeal action by increasing the tone of intestinal muscles, constriction of sphincters, reducing the motility. Diphenoxylate, loperamide, paregoric- are morphine derivative- opiates are not advisable in infectious diarrhea because of increase chances of absorption of bacterial toxins. c) Anticholinergic agents- Isopropamide, propantheline-they reduce the G.I.motility.

4.**Antizymotics:** Agents that will reduce bacterial or enzymatic fermentation and prevent gas production- used in tympani, bloat in ruminants-colic in horse**.** Commonly used agents are turpentine oil diluted with vegetable oils, Tr. Asafoetida, Spt.of nitrous ether, chloral hydras, Antibiotics-explain each.

5.**Anti frothing agents** :Agents which prevent froth formation in rumen-polymerised methyl silicon- viscous liquids, tasteless, inert, non toxic materials which increase surface tension and reduce foam stability. Commonly used agents are polymerized methyl silicon, polyethylene glycol surfactants, dioctyl sodium sulphosuccinate, simethicon, serotonin 2 antagonists like ketanserin which stimulate rumen contraction. Rumen fermentation can be manipulated by small concentration of monensin. Antibiotics like penicillin, Fixed oils like arachis oil, volatile oil like turpentine oil along with demulcents is of value.

6.**Bitters:** Are substances which stimulate appetite and digestion by increasing the gastric secretion and saliva-mostly plant orign-must be given half an hour before food-mainly three classes simple, aromatic and alkaloidal. Simple bitters eg.Calumba, Quassia, Chireta.
Aromatic-Active principle is aromatic substance, eg. Gentian, Orange and Ginger. Alkaloidal-Active principle is alkaloids.eg. Nuxvomica, Quinine.

7.**Cyto protective drugs:** Those drugs which bind to and protect the ulcerated site from acid, bile and pepsin activity. 1)Sucralfate –basic aluminium salt of sucrose octasulphate –more affinity to damaged tissue and protect it from further irritation and promote healing. Increase P.G. release from G.I. mucosa, increase mucous viscosity and volume, increase bicarbonate secretion. No. acid neutralizing activity. Dogs. 40mg/kg TID. 2) Colloidal bismuth subcitrate: Effective against *Helicobacter pylori* (which suppress mucosal protective mechanism) probable mechanism include enhance secretion of mucous and bicarbonate- reduce pepsin activity-antibacterial against H .pylori.

8**.Carminatives:** are aromatic drugs that are used to expel gas from stomach and intestine for relief of colic and flatulence- relax cardia sphincture for 30 min. commonly used carminatives are aromatic oil of vegetable origin- ginger, turpentine, aniseed, peppermint, cardomum etc. Volatile drugs such as chloroform, alcohol, and ammonia can also be used.

9.**Choleretics:** Agents which stimulate liver to increase the out put of bile there by stimulate fat absorption, Vit. A,D,E,K, carotene-activate pancreatic lipase – stimulate absorption of calcium- prevent excessive growth of Coliform-serve as an emulsifying agent- act as a mild cathartic.-sources are crude extract of Ox and Hog bile. Dihydrocholic acid increase the volume of bile- Synthetic substance Forantyrone ,Tocamphyl.

10.**Cholagogue(Cholekinetics):** Causes contraction of gall bladder and stimulate the release of bile - resistance of sphincter of Oddi is reduced-stimulate the flow of bile in to duodenum. Choline , oxytocin, magnesium sulphate, calomel, rheubarb are also have the action. Useful in evacuation of bladder and to promote the absorption of dietary fat. Magnesium sulphate and dietary fat when reaches at duodenum exert cholagogue action through release of CCK pancreozymin-stimulate the motility of gall bladder. Ceruletide from the skin of an Australian frog has all the properties of gastrin and CCK pancreozymin. Vagal stimulation will also promote contraction of gall bladder.

11**.Digestants:** Are drugs that promote the process of digestion of food in the G.I.Tract. – Hydrochloric acid in hypochlorhydria-pepsin with hydrochloric acid in gastric achylia(lack of

secretion of acid pepsin)-pancreatin which is a mixture of trypsin, amylopsin and steapsin-pancreolipase- Diastase as amylolytic enzymes(convert starch in to dextrose and maltose) which prevent flatulence due to gas production from soluble carbohydrate –rennin and papaine

12.Drugs used to treat hepatic encephalopathy: Protosystemic encephalopathy is the most common cause of hepatic encephalopathy- treated by reducing the protein intake of aromatic aminoacids. Lactulose and soluble fibers reduce ammonia metabolism- metabolized by the colonic bacteria to produce acids reduce pH and prevent NH3 absorption and give relief to encephalopathy. Metronidazole controls the anaerobs, some of which are urease producers which may contribute to ammonia production .

13.**Emesis:** Evacuation of gastric content-it is a protective mechanism- developed in all species except ruminants ,equines, pigs, rodents- Emetic centre is located in lateral reticular formation-stimulation causes emesis- a) Psychic stimuli arising from visual and olfactory stimuli via sensory nerve receptor from cerebrum b) Head injury and increase intracranial pressure stimulate via limbic pathway c) Impulses from semicircular canals and labyrinth d) Stimulation of visceral organs like heart, liver, kidney, uterus, peritonium etc. e)Chemicals like apomorphine, and radiation which stimulate chemoreceptor trigger zone . Vomition interfere with proper food intake –repeated emesis affect electrolyte balance- dehydration, exhaustion and aspiration of vomitus in to lungs resulting in pneumonia and some times death.

14.**Emetics**: Are agents which help in the evacuation of gastric content acts on stomach and upper duodenum. a) Common salt-one tea spoon sodium chloride in one glass luke warm water. b) Copper sulphate 1% sol.50 ml. in dogs c) Zinc sulphate 1% 50ml. d) Sodium carbonate one pinch at the base of the tongue. e) Plant products like Tr. Ipecacu which contain emetine f) Centrally acting emetics-which stimulate CTZ- Apomorphine. 0.04 mg/kg i/v in dogs.or 0.07 mg/kg. i/m. g) Sedative analgesics like xylazine causes vomition . Emetics are used when poisons are taken by mouth, where gastric lavage is not possible, acute indigestion due to excess consumption .

15.Gastric secretary inhibitory agents: several groups of agents can block the secretion. H2 blockers, proton pump inhibitors, muscarinic receptor antagonist and prostaglandin analogs.
H2 blockers block the action of histamine on parietal cells and reduce the production of acids-used in treatment of peptic ulcer, gastro oesophagial reflex disease and dyspepsia. Proton pump inhibitors irreversibly block H+ K+ ATPase in the gastric parietal cells and cause long lasting reduction in gastric acid production. Non selective muscarinic receptor antagonist such as atropine, glycopyrolate, propanthelin reduce gastric motility and secretion-basal gastric secretion is reduced but not food stimulated gastric secretion so less recommended. Selective M1 receptor antagonists like atropine block other secretion also, pirenzepine and telenzepine are other M1 receptor antagonist. Prosta glandin E2 and I2 have cyto protective effect on gastric mucosa –Misprostol is an analogue of prostaglandin reduces the concentration of cAMP with subsequent reduction in protein kinase activity and H ion concentration-very effective in preventing G.I ulcer and erosion caused by NSAIDs.

16.Indirect irritant purgatives: (Anthracene or emodin cathartics) Best examples for this group of purgatives are Aloes, Cascara sagrada, Senna, Rheubarb- active constituent is anthraquinon glycoside-action limited to large intestine.-metabolic product chrysophanic acid give yellowish brown or reddish violet colour to the alkaline urine. Actual original ingredient in the plant is non irritant –absorbed and metabolized in liver –released in to system excreted

in to intestine- which is the irritant agent to produce diarrhea. Rheubarb is dried rhizome of a plant, Senna is the dried leaf of a plant, Cascara sagrada is the sacred bark.

17.Intestinal motility modulators: Parasympathetic blocking drugs are used for this. Atropine, homatropine, quarterinar ammonium compounds- propanthelin, methanthili. Synthetic parasympatholytic agents like Dicyclomine, all reduce the motility of intestine. Diphenoxylate is a morphine derivative which reduce motility.

18.Irritant purgatives: (Direct) /Stimulant cathartics: They are agents which irritate the digestive tract and produce griping pain-stimulate secretion-stimulate peristalsis by irritation of the mucosa-.Commonly used agents are Castor oil, Arachis oil, Linseed oil, Phenolphthalein, - Castor oil from *Ricinus communis*- cake contain a toxic albumin-ricin-however the oil if free as it is not soluble in oil. Ricinolic acid is hydrolised in the intestine-ricinolate is produced which is the active product. Diphenyl methane cathartic- like phenolphthalein is widely used- since there is entero hepatic circulation there is long duration of action. Isacen is a derivative of phenolphthalein. Other eg. are Bisacodyl, Mercurous chloride.

19.**Liver protectants and hepatotropic agents**: Agents having specific affinity for liver. Choline promote the conversion of liver fat in to choline containing phospholipids and transferred to blood- prevent fatty infiltration of liver. Methionin, Betaine, Inositol, Lecithin, Cyanocobalamin, Pangamic acid, Selenium, Vitamin-E, Essential phospholipids, Hypertonic glucose solution, provide favourable response in hepatic disorders.

20.**Lubricant laxatives(Emollient laxatives**): Long chain hydrocarbons –unchanged and unabsorbed in GI tract-oily property of drug favor coating on mucosa-smooth passage of faeces. Coating prevent contact with nutrients in the intestine- hintered the absorption of vitamin A,D,E,K Carbohydrate, Protein, Fat, Calcium ,Phosphorus.-Reduce the normal irritant action of faeces to stimulate the evacuation . Result in chronic constipation. Oil may pass through the anal sphincture in small amount. Liquid paraffin is one of the agent-which causes lipid pneumonia. Cotton seed oil, Corn oil, Lin seed oil, Olive oil also can be used.

21.Neuromuscular purgatives: They are parasympatho mimetics- mostly used in Horses and Elephants- on administration there will be discomfort, salivation, patchy sweating, diarrhea. Lying down getting up, rolling on the ground. Not recommended in impaction. Eg. are Arecoline , Pilocarpine, Physostigmine, Neostigmine, Carbachol.

22.**Non systemic antacids**:
Agents that neutralize or remove acid from the gastric content- employed in hyperchlorhydria and peptic ulcer-act locally not absorbed in to the system and so no effect on acid base balance. Commonly used agents are Aluminium salt like aluminium hydroxide, aluminium phosphate, aluminium aminoacetate- Magnesium salts like mag.oxide, mag. hydroxide gel, mag. carbonate and mag. trisilicate, Bismuth salts like bismuth carbonate can also be used.

23.Proton pump inhibitors: Proton pump inhibitors irreversibly block H+ K+ ATPase in the gastric parietal cells and cause long lasting reduction in gastric acid production

24.Ruminotorics: Agents which stimulate rumino reticular contraction-used in ruminal stasis or atony. a) Bitters such as nuxvomica, ginger, gentian they increase the salivary secretion provide more fluid in to rumen to favour contraction- b) cholinergic agents such as

neostigmine,physostigmine, arecoline, carbachol, can be used. c)Prokinetics like metoclopramide stimulate ruminoreticular motility, d) Opiate antagonist such as naloxone can stimulate. e) When ruminal pH is elevated acidifying agents like acetic acid/vinager will bring down the pH and favour the motility, conversely when ruminal pH is reduced alkalinizing agents like magnesium hydroxide, aluminium hydroxide sodium bicarbonate, calcium hydroxide etc can increase the pH and favour motility. f) Antihistamins in case of histamine induced stasis.g) Ruminal fluid transfer orally –viable rumen bacteria and protozoa is the most effective means to correct rumen function following correction of primary cause.

25.**Simple bulk purgatives:** This group of drugs include synthetic polysaccharides and cellulose derivatives that dissolve or swells in water to form emollient gell or viscous solution. Full effect may not be achieved until 2-3 days. Agar-indigestible hemicellulose, Tragacanth , Plantain seeds, Carboxy methyl cellulose, Bran, Fruits, Polycarbophil are other agents.

26.**Saline bulk purgatives:** This group of purgatives are the most widely used. Salts of poorly absorbed ions as Magnesium(cation) and sulphate, phosphate, tartrate (anion) .These salts draw water from the tissue in to lumen. Saline salt must be given with sufficient quantity of water. Action in 3-12 hours in simple stomached animals and 18 hrs in ruminants. Less reliable in Horses-Sodium sulphate is preferred. Magnesium sulphate is contraindicated in impaired renal function. Sodium sulphate is not advisable in CHF.

27.**Silagogues:** Agents which will increase the fluidity and volume of saliva there by increase appetite or even digestibility, Psychic reflex- sight or smell of food stimulate saliva, nausea also increase saliva. b) Mechanical stimulation- presence of food in the mouth stimulate saliva. c) Bitter substances like strychnine, chireta, strong taste like sour, hot taste etc. d) Stimulation of sympathetic and parasympathetic system –sympathetic stimulation increase viscid saliva, parasympathetic stimulation- scanty saliva. Nicotine, Pilocarpine, Arecoline, O.P.,etc. e) Higher level of iodides, mercury, salicylates excretion in saliva increase saliva. f) Few agents are capable of stimulating directly –anethole,trithione. In ruminants eating and rumination increase saliva, it does not contain digestive enzymes but mainly act as a buffer, saliva also contain a substance which decrease the surface tension of rumen liquor-role in bloat.

28.Stomachics: Agents which stimulate functional activity of stomach by increasing secretion and motility.a) Muscarinic agents –by stimulating the gastric cholinergic receptors. b) Prokinetics which regulate tone and amplitude of gastric contractions like Metoclopramide c) Alkaline stomachic which stimulate gastric juice and vasodilatation-bicarbonate. d) Histamine analogus in achlorhydria e)Stimulation of vagus nerve f) Psychic reflexes g) Bitters.

29.Systemic antacids: Agents which neutralise or remove acidity from the gastric content. Employed in hyperchlorhydria and peptic ulcer. Absorbed in to the system. Some of them produce systemic alkalosis-upset acid base balance. eg is sodium bicarbonate-chronic use with calcium containing food cause hyper calcemic syndrome including irreversible renal damage. Antimuscarinic agents like Atropine, pirenzepine, PG analog like misprostol, H2 antagonist like ranitidin, Protonpump inhibitor like omiprazole also can be used.

30.Treatment of inflammatory bowel disease: these are chronic G.I. inflammatory disorders of unknown cause. a) sulfa salazine-cleaved by bacteria in to sulfapyridine and

salicylate –salicylate acts by inhibiting P.G.synthesis and affect the pro inflammatory leukotrienes in the colonic mucosa. Olsalazine consist of 2molecules of 5 aminosalicylate linked by a diazobond. b) Tylosin-a macrolide antibiotic c) Metronidazole –anti protozoan and antibacterial against anaerobes.d) fortiflora- a specific probiotic for dogs and cats-probiotics are live bacterial products that affect beneficial health response to the host by exclusion of bacterial pathogens and enhancement of local immunity.

31.Vegetable astringents: Astringents of plant origin-mainly include Tannic acid,Gallic acid, mainly seen in catechu, kino, krameria. Commercial; source of tannic acid is nut galls ,Oak tree-secretions coming out by cutting the nut galls are collected-fermented and purified-available as brown powder. It precipitate the proteins, combine with metallic ions, alkaloids, glycosides- high con. will irritate produce nausea and vomition-hepatic toxicity. Used in the control of diarrhea, 0.25%ointment in burns , along with glycerin used in F & Mouth infection for dressing the oral ulcers, Catechu can also be obtained from extract from the leaves of *Uncenaria gambir*.

32. Synbiotics: Synbiotics are products that contain both probiotics and prebiotics. Probiotics are known to favour the growth of beneficial bacteria over that of pathogenic microorganisms. Probiotics beneficially influence the host by having selectively stimulating action on the growth and /or activity of a selected group of microbs living in the colon. The main reason for using a symbiotic is that a true probiotic without its prebiotic food does not survive well in the digestive system . Among various alternative agents, synbiotics have direct and or indirect effect on the pathogenesis and disease progression. Synbiotics is proposed as novel therapeutic alternative. The common synbiotics include Lactobacillus + lactitol, Lactobacillus + inulin, Lactobacillus + fructooligosaccharides, Bifidobacteria +fructooligosaccharides, Bifidobacteria + galactooligosaccharides, Bifidobacteria and lactobacillus+ inulin.

XI. Answer the following and give your explanation for the same.

1.The antiemetic action of metoclopramide include all except one of the following.A) Inhibition of H1 histamine receptors in the vomiting center B) Stimulation of gastric motility C) Inhibition of dopaminergic receptors in the CRTZ D) Increased sensitivity of intestinal smooth muscle to acetylcholine E) Relaxation of pylorus.

Answer is (A). The central antidopaminergic action of metoclopramide do not include blockade of histamine H1 receptors. It inhibits dopamine receptors in the CRTZ and stimulate gastric and intestinal motility and gastric emptying for its anti emetic effects.

2. Which of the following laxatives act to reduce blood ammonia concentrations and thus is a component of hepatic encephalopathy therapy? A) Magnesium sulfate B) Lactulose C) Castor oil D) Bethanechol.

The answer is B. lactulose is a disaccharide molecule that is metabolized by luminal bacteria into osmotically active particle that retain water in the intestinal lumen. Bacterial fermentation produces acid that reduce the pH of the colonic contents. Blood ammonia is then converted to the ionic form which is not absorbed and eliminate.

3 .The primary reason for addition of glucose or fructose to oral rehydration solution in treating diarrheal disease is A) to correct the severe hypoglycemia and weakness. B) to

stimulate disaccharidase activity in the mucosal brush border C) to stimulate sugar-sodium coupled uptake by enterocytes. D) to provide a hypertonic gradient for water absorption.

The answer is C. Glucose or fructose stimulates sodium absorption via a coupled transport mechanism on enterocytes. Sodium uptake then secondarily provide the osmotic force for water absorption. Increased glucose absorption may be beneficial but is not essential for rehydration. Disaccharidase activity is not altered by monosaccharides.

4. Inhibitors of gastric acid secretion are employed in small animals for treatment of gastritis, gastric ulcer, and liver disease. A drug which inhibits the acid (proton)pump in the parietal cells is A) famotidine. B) ranitidine. C) omeprazole. D)diazepam.

The answer is C. Omeprazole decrease gastric acid secretion by inhibiting hydrogen ion generation by parietal cell ATPase. Famotidine and ranitidine are histamine -2 receptor antagonists. Diazepam is a benzodiazepine used for short term stimulation of appetite.

5.Oral administration of vinegar (acetic acid) in cattle with urea poisoning A) reduce the ketonemia by providing acetate as an energy source. B) stimulate bacterial urease to increase urea breakdown in the rumen. C) slows rumen fermentation to allow regrowth of favorable bacteria. D) reduce ammonia absorption in to the systemic circulation.

The answer is D. Acidification of the rumen shifts the equilibrium from ammonia to ammonium ion which slows absorption. Urease activity is also decreased at lower rumen pH, resulting in a slower rate of ammonia formation. Ketonemia or excessive rumen fermentation are not related to urea poisoning

6. Which of the following would be ineffective in producing closure of the oesophagial groove in cattle? A) Water B) Milk C) Sodium bicarbonate, 10% D) Copper sulphate,5%
The answer is A. Water is not an effective stimulus for oesophagial groove closure. Milk , sodium bicarbonate, or copper sulfates are effective stimulus.

7. synthetic bile acid such as ursodeoxycholic acid A) increase fat absorption and bile secretion. B) are lipotropic agent useful in preventing fatty liver degeneration. C) are useful mainly as appetite stimulants in lactose intolerant patients. D) decrease the production of glutamine which promote oxidative damage to hepatocytes.

The answer is A. The bile acids emulsify lipids to enhance absorption and stimulate bile flow. Lipotropic agents such as methionine are methyl donors that stimulate hepatic lipoprotein synthesis. Lactose intolerance is treated by eliminating dairy products from the diet. Bile acid increase the production of glutathione which prevent oxidative damage.

8.Vomiting arising from motion sickness or vestibular disease may be reduced by antihistamines such as A) propanthelin. B) metoclopramide. C) chlorpromazine D) diphenhydramine.

The answer is D. Diphenhydramine prevents vomiting via blockade of histaminergic afferents originating in the vestibular organs. Propantheline is an anticholinergic and metoclopramide and chlorpromazine are antidopaminergic with little or no antihistaminic action

9. Chelation therapy in dogs with. copper toxicosis is best achieved with
A) colchicines B) D-penicillamine C) S-adenosyl-L- methionine(SAMe) D) high protein diets.

The answer is B.Copper toxicosis may occur as a primary disorder in the Bedlington terrier as well as some other breeds. A verity of hepatic disorders which cause cholestasis

may predispose to copper accumulation and subsequent oxidative damage . colchicine is an antifibrotic agent, while SAMe prevent hepatic oxidative damage but is not a chelation agent. High protein diet should be avoided in hepatopathy since they promote ammonia production. D- penicillamine is the copper chelation agent of first choice for use in dogs.

10. Anaerobic bacteria serve as microbial antigens which trigger chronic inflammation in canine inflammatory bowel disease (IBD) . Bacterial activity against anaerobes and suppression of mucosal immune reactions characterize the action. Which of the following drugs in the treatment of IBD? A) Olsalazine B) Clindamycin C) Metronidazole D) Aminopentamide

The answer is C. Metronidazole is bactericidal for anaerobes and in addition , it suppresses cell mediated immunity. Olsalazine is a salicylate dimer which is cleaved in the large bowel to release two molecules of 5-aminosalicylate which inhibit prostaglandin synthesis. Clindamycin suppresses anaerobic bacterial growth but has no effect on colonic mucosal immune reactions. Aminopentamide is an anticholinergic used in the control of vomiting and diarrhea.

11.Retention of urine may be observed as an adverse effect of A) chlorpromazine B) isopropamide C) droperidol. D) diphenoxylate.

The answer is B. Anticholinergic agent such as isopropamide may produce urinary retention as a side effect by inhibiting bladder contractility and tone. Chlorpromazine and droperidol are dopamine antagonist and diphenoxylate is an opiate agonist.

12. Antiprostaglandin activity and protective /adsorbent properties characterize the anti-diarrheal action of A) kaolin B) sucralfate C) magnesium silicate D) bismuth subsalicylate.

The answer is D. The anti-diarrheal action of bismuth subsalicylate is due in part to the inhibition of prostaglandins synthesis in gut mucosa. Kaolin , magnesium salicylate and sucralfate are mucosal protectives with no effect on prostaglandin synthesis.

13. Poloxalene relieves bloat by A) stimulating the eructation reflex. B) inhibiting the growth of gas forming bacteria. C) altering the surface tension of froth. D) stimulating rumen motility.

The answer is C. Poloxalene relieves bloat by altering the surface tension of ruminal froth to induce breakup and release of entrapped gases. It does not alter rumen microflora or rumen motility. Break up of froth permits normal functioning of the eructation reflex.

14. The elimination of poisons from the GI tract requires administration of a cathartic with a rapid onset of action such as A) senna B) methylcellulose C) magnesium sulfate D) docusate.

The answer is C. Osmotic cathartics such as magnesium sulfate act in the small intestine and thus have a rapid onset of action. Senna, methyl cellulose, and docusate exert their laxative effect in the large intestine.

XII.Write Esasays on:

1.Explain in detail Emetics used in veterinary practice.
2.What are stomachics, classify with examples ,explain their mechanism of action and use.
3.What are Antizymitics and Carminatives-Explain their mechanism of action and uses.

4.What are irritant catharteics? classify with examples-explain the mechanism of action, use and side effects.
5.What are the differences between anti diarrhoeal and astringents used to treat diarrhea, explain each agents.
6.What are stomachics ?classify them and explain in detail bitters.
7.Classify drugs used to soften the fecal matter, explain in detail bulk purgatives,
8.Classify cathartics with examples, explain anthracene purgatives
9.What are emodin cathartics? Explain.
10.Explain in detail anti emetics.