GASTROINTESTINAL SYSTEM

1. The physiological actions of CCK include*:*

a) Increased oesophageal motility
b) Closing the sphincter of oddi
c) Increased bile synthesis
d) Contraction of pancreatic acini
e) Increased enzyme secretion from the pancreas

2. The component parts of the myenteric plexus of the enteric nervous system include the following except*:*

a) Sensory neurons
b) Interneurons
c) Motor neurons
d) Synapses
e) Control centers in the medulla oblongata

3. Saliva does not contain*:*

a) Blood group antigens
b) Lysozymes
c) Immunoglobulins
d) Platelets
e) Chloride

4. The functions of saliva include the following *except*:

a) Cleaning the mouth
b) Killing bacteria
c) Digestion of proteins

d) Facilitation of speech
e) Digestion of lipids

5. The pharyngeal phase of swallowing:

a) Is partially voluntary
b) Includes opening of the upper oesophageal sphincter
c) Includes the peristaltic activity of the upper third of the oesophagus
d) Is associated with the opening of the glottis
e) Is preceded by deep inspiration

6. The enzymes produced by the exocrine pancreas include the following *except:*

a) Proelastase
b) DNase
c) Amylase
d) Enteropeptidase
e) Lipase

7. The secretion of the exocrine pancreas is increased by the following *except:*

a) Vagal stimulation
b) Acetylcholine
c) Secretin
d) CCK
e) Atropine

8. Bile production by the liver cells is increased by*:*

a) Sympathetic activation

b) Secretin
c) CCK
d) Bile salts
e) Atropine

9. The jejunum is the main site for absorption of the following *except:*

a) Glucose
b) Amino acids
c) Fatty acids
d) Bile salts
e) Water

10. The functions of the colon include the following *except*:

a) Absorption of water
b) Absorption of sodium
c) Absorption of chloride
d) Absorption of calcium
e) Absorption of potassium

11. The intestinal flora is:

a) Mainly viruses
b) Mainly found in the duodenum
c) Needed for normal digestion
d) Mainly found in the colon
e) Mainly pathogenic bacteria

12. The following is true about the small intestine:

a) Stores food for several hours

b) Is the main source of digestive enzymes
c) Has haustrae
d) Has segmentation contractions
e) Secretes the intrinsic factors

13. The defaecation reflex:

a) Is initiated by stretching the anal canal
b) Is integrated in a control center in the lumbar spinal cord
c) Is integrated in a control center in the sacral spinal cord
d) Is controlled by the vagus nerve
e) Involves contraction of the sigmoid colon

14. A tumor producing large amounts of gastrin DOES NOT include:

a) Hyperplasia of gastric epithelium
b) Hyperplasia of gastric mucosal lymphocytes
c) Excessive gastric acid secretion
d) Histamine secretion in the gastric mucosa
e) Recurrent peptic ulcers

15. Which of the following is likely to fail to reduce secretion of hydrochloric acid in the stomach:

a) A H_2 receptor blocker
b) A nicotinic cholinergic receptor blocker

c) A muscarinic cholinergic receptor blocker

d) An inhibitor of the hydrogen-potassium pump

e) A gastrin receptor blocker

16. A tumor producing large amounts of the intestinal hormone GIP may result in:

a) Hyperglycemia

b) Hypoglycemia

c) Diarrhea

d) Intestinal colic

e) Hyperacidity in the stomach

17. The following statements are true about bile *except*:

a) 25% is produced by bile duct cells

b) The bile stored in the gall bladder contains secondary bile acids

c) Its secretion is increased by secretin

d) Bile pigments are needed for micelle formation

e) Some lipids will be digested and absorbed in the absence of bile

18. A plain X-Ray film of the abdomen of a normal healthy man is expected to show some gas in all the following *except*:

a) Stomach

b) Common bile duct

c) Small intestine

d) Transverse colon
e) Rectum

19. The component parts of the myenteric plexus of the enteric nervous system includes the following *except*:

a) Sensory neurons
b) Interneurons
c) Motor neurons
d) Synapses
e) Control centers in the medulla oblongata

20. The secretion of the exocrine pancreas is increased by the following *except*:

a) Vagal stimulation
b) Acetylcholine
c) Secretin
d) CCK
e) Noradrenaline

21. The jejunum is the main site for absorption of except:

a) Glucose
b) Amino acids
c) Fatty acids
d) Vitamin B12
e) Water

22. Functions of the human stomach include:

a) Absorption of iron
b) Absorption of Vitamin B12

c) Absorption of 50% of water intake

d) Storage of food for 24 hours

e) Limited digestion of proteins

23. The presence of bilirubin in bile is important because:

a) It gives bile its color

b) It leads to production of stercobilinogen in the intestine

c) It facilitates absorption of lipids

d) It gives faces their color

e) It means a waste product is being excreted

24. Relating to carbohydrate digestion:

a) Cellulose can be digested by human amylases

b) About one-third of starch digestion occurs in the mouth and two-thirds occurs in the small gut

c) It can only occur in the complete absence of protein digestion

d) It occurs only if bile salts are present

e) Sucrose is split by amylase action

25. Micelles:

a) Are emulsified fat globules in the duodenum

b) Are packets of pro-enzymes found in pancreatic acinar cells

c) Are dead enterocytes leaving the tips of villi

d) Are "flickering clusters" of cholesterol and fatty acids coated with bile salts and 2 mono-glycerides

e) Are the triglyceride particles formed by enterocytes and transported in the lymphatic system

26. The neurons of the intrinsic enteric nervous system do NOT perform the following functions:

a) Detect distension of the stomach

b) Control intestinal mucosal cell secretions

c) Coordinate muscle contraction in the large intestine

d) Control lower oesophageal sphincter

e) Contract the gall bladder

27. The part of the gastrointestinal tract that is NOT affected by disorders of the myenteric plexus of the intrinsic nervous system:

a) Anal canal

b) Rectum

c) Caecum

d) Oesophagus

e) Pharynx

28. A patient who undergoes the following operation will NOT survive without parenteral feeding:

a) Total oesophagectomy
b) Total gastrectomy
c) Right hepatic lobectomy
d) Total oroclocolectomy
e) Subtotal small intestinal resection

29. After a cholecystoctomy, patients may have problems with fat-rich foods becuase*:*

a) The liver stops producing enough bile
b) Bile pigments are reduced in amount
c) The enterohepatic circulation has stopped
d) Bile is not well concentrated
e) The sphincter of Oddi fails to open in response to a fatty meal

30. Diseases that reduce pancreatic enzyme secretions do NOT usually decrease the digestion and absorption of:

a) Animal proteins
b) Plant proteins
c) Plant lipids
d) Sucrose
e) Starch

31. The colonic mucosal cells are very efficient in*:*

a) Converting primary bile acids into secondary bile acids

b) Converting bilirubin into stercobilinogen

c) Absorption of aromatic amino acids

d) Absorption of sodium

e) Absorption of phosphates

32. Contraction of the gallbladder may be due to*:*

a) Secretin

b) VIP

c) Bile salts

d) Atropine

e) Paraympathetic stimulation

33. Saliva does not contain*:*

a) Blood group antigens

b) Lysozymes

c) Immunoglobulins

d) Pepsin

e) Chloride

34. The actions of secretin include*:*

a) Increased salivary secretion

b) Relaxation of the oesophageal sphincters

c) Stimulation of gastric secretion

d) Stimulation of secretion of bicarbonate by pancreatic duct cells

e) Stimulation of secretion of bicarbonate by pancreatic acinar cells

35. Saliva is needed for:

a) Digestion of sucrose
b) Digestion of phospholipids
c) Ability to speak
d) Breaking food down into small pieces
e) Absorption of chloride

36. The pharyngeal phase of swallowing includes:

a) A deep breath
b) Elevation of the tongue against the hard palate
c) Contraction of the upper oesophageal sphincter
d) Contraction of the pharyngeal constrictors
e) Elevation of the epiglottis

37. If the stomach is removed (gastrectomy), the patient is unlikely to suffer from:

a) Iron deficiency anemia
b) Ca^{2+} deficiency
c) Macrocytic anemia
d) Malnutrition
e) Inability to absorb water

38. Functions in the liver include production of:

a) Digestive enzymes

b) Secondary bile acids
c) Stercobilinogen
d) CCK
e) Taurocholic acid

39. The small intestine*:*

a) Is shorter than the large intestine
b) Its internal surface area is smaller than the large intestine
c) It absorbs less water than the large intestine
d) It contains bacteria as found in the large intestine
e) It produces the enzymes needed for lipid digestion

40. Bile contains all of the following *except:*

a) Alkaline phosphatase
b) K^+
c) Cholesterol
d) CCK
e) Water

41. The functions of gastrin include the following *except:*

a) Increased production of histamine in the gastric mucosa
b) Stimulation of the growth of intestinal mucosa
c) Increased secretion of pepsinogen

d) Contraction of the gastro-oesophageal junction

e) Increased secretion of HCO_3^- by biliary duct cells

42. Major constituents of feces include all of the following *except*:

a) Water
b) Cellulose
c) Bacteria
d) Calcium salts
e) Glycogen

43. The exocrine pancreas secretes the following enzymes *except:*

a) Chymotrypsinogen
b) Prolestase
c) Lactase
d) Alpha-amylase
e) Phospholipase

44. GIT hormones with a major effect on the stomach include the following *except*:

a) Gastrin
b) Secretin
c) GIP
d) Neurotensin
e) CCK

45. If the submandibular salivary gland stops functioning:

a) The volume of salivary secretion will be reduced by 20%

b) There would be severe deficiency of alpha-amylase

c) There would be no mucins in saliva

d) There would be difficulty in swallowing

e) Parasympathetic stimulation would not increase salivary secretion

46. If the oesophageal muscles are not working:

a) Swallowing in the upright position is not affected because of gravity

b) Water swallowing is not affected

c) There will be dysphagia to solids and liquids

d) There will be frequent attacks of vomiting

e) Gastro-oesophageal reflex becomes less common

47. Atrophy of the gastric mucosal glands is likely to result in:

a) Diminished digestion of starch

b) Failure of digestion and absorption of proteins

c) High gastrin levels in the blood

d) High secretin levels in the blood

e) Normochromic normocytic anemia

48. The brush border enzymes of the small intestine digest:

a) Starch
b) Cholesterol esters
c) Albumin
d) Galactose
e) Lactose

49. The average daily amount of fluid that passes through the pylorus in a healthy adult is about:

a) 2 liters
b) 9 liters
c) 6 liters
d) 8 liters
e) 12 liters

50. The stomach has the ability to absorb:

a) Ca^{2+}
b) Alcohol
c) Glucose
d) Aromatic amino acids
e) Fe^{2+}

51. The effects of parasympathetic stimulation on the GIT include:

a) Constriction of the pylorus
b) Contraction of the internal anal sphincter

c) Contraction of the external anal sphincter

d) Contraction of the gall bladder
e) Decreased mucus secretion

52. Pancreatic exocrine secretion is stimulated by the following *except*:

a) CCK
b) Secretin
c) Vagal stimulation
d) Presence of food in stomach
e) Entropeptidase

53. Absorption of iron:

a) The stomach absorbs 55% of dietary iron due to the presence of HCl
b) The small intestine absorbs most of the iron in the diet
c) Iron absorption is mainly at the terminal ileum
d) The amount of iron absorbed changes according to body stores and rate of erythropoiesis
e) The amount of iron absorbed is adjusted to balance iron excretion by the kidney

54. Saliva does not normally contain:

a) Isozyme
b) IgA
c) Lactoferrin

d) Intrinsic factor
e) Hydrogen ions

55. The oesophageal phase of swallowing:

a) Cannot proceed when the mouth is open
b) Is primarily a reflex controlled by the myenteric plexus
c) Is primarily controlled by the swallowing center in the brain
d) Starts when a bolus enters the oropharynx
e) Takes less time in patients with achalasia of the cardia

56. Vomitting is not usually caused by:

a) Irritation if the duodenal mucosa
b) Diseases of the inner ear
c) Microbial toxins in the blood
d) Severe exercise
e) Bad smell

57. The function of the migrating motor complex (MMC) is to:

a) Empty non-digestable material from stomach and small intestine during fasting
b) Initiate mass movements in the large intestine
c) Increase intestinal peristalsis in response to overfeeding

d) Increase ileal motility in response to entry of chyme into the stomach

e) Overcome intestinal obstruction

58. The duodenum and jejunum are the main site for absorption of the following *except*:

a) Glucose

b) Vitamin C

c) Fat-soluble vitamins

d) Bile salts

e) Iron

59. The mucosal cells of the human colon perform the following functions:

a) Converting primary bile acids into secondary bile acids

b) Converting bilirubin into stercobilinogen

c) Absorption of Na^+

d) Absorption of aromatic amino acids

e) Digestion of cellulose

60. It is true to say the following about the motility of the gastrointestinal system:

a) It is regulated neurally but not by hormones

b) Emptying of the stomach is mainly by segmentation contractions

c) Movement of chyme along the small intestine is mainly by the migrating motor complex

d) Peristalsis is seen in most parts of the GIT

e) The gallbladder is contracted by sympathetic stimulation

61. Secretion of the acinar cells within the exocrine pancreas is not increased by:

a) Secretin

b) CCK

c) Parasympathetic stimulation

d) Bicarbonate ions

e) Acetylcholine