Human Physiology DIGESTION & ABSORPTION

1. **Assertion (A):** The digestive action of salivary amylase stops when the swallowed bolus enters the stomach

   Reason (R): Salivary amylase is inactivated at the low pH of gastric juice

   a. Both A and R are true and the R is correct explanation of the A

   b. Both A and R are true but the R is not correct explanation of the A

   c. A is true, but the R is false

   d. Both A and R are false

2. **Match the following and choose the correct answer**

	Column - I	**Column-II**
A)	Haustra	i) Palate
B)	Uvula	ii) Nasopalatine duct
C)	Sacculus rotundus	iii) Pharynx
D)	Jacobson's organ	iv) Colon
		v) Ileum

	A	B	C	B		A	B	C	D
a.	IV	I	V	II	b.	IV	I	V	III
c.	I	IV	II	V	d.	I	IV	III	V

3. **The papillae arranged in semicircle at the base of tongue are**

   a. Fungiform b. Filiform c. Foliate d. Circumvallate

4. **Arrange the following parts in the stomach wall in the correct sequence from the outer to the inner side**

   A. Circular muscle fibers B. Serosa C. Muscularis mucosa

   D. Oblique muscle fibers E. Columnar epithelium F. Longitudinal muscle fibers

   G. Submucosa

   a. B-F-A-D-G-C-E b. B-A-F-D-G-C-E c. B-F-A-G-D-C-E d. B-F-A-D-C-G-E

5. **The cells that are not found in the gastric gland of rabbit are**

   a. Oxyntic cells b. Zymogen cells c. Parietal cells d. Kupffer cells

6. **Choose the correct statement**

   a. Deficiency of protein intake causes kwashiorkor

   b. Deficiency of fat intake causes marasmus disease

   c. Deficiency of magnesium causes seborrheic sterility

   d. Deficiency of niacin causes seborrheic dermatitis

7. **Study the following and choose the correct answer**

Salivary glands Character

I) Infra-orbital - Situated below the eye orbit

II) Parotid - Open through Wharton's duct

III) Sub maxillary - Open through Stensen's duct

IV) Sub lingual - Situated below the tongue

a. I and II b. II and III c. III and I d. I and IV

8. Amino acids are the only end products by the action of which of the following enzymes acts on the protein constituents?

a. Aminopeptidase b. Carboxypeptidase c. Tripeptidase d. Dipeptidase

9. The detoxifying organ of the body is

a. Liver b. Pancreas c. Spleen d. Bone marrow

10. In normal conditions, the lower oesophageal sphincter prevents the regurgitataion of food from the

a. Cardiac stomach to pyloric stomach b. Cardiac stomach to fundic stomach

c. Cardiac stomach to oesophagus d. Pyloric stomach to cardiac stomach

11. Formation of glucose in liver from non-carbohydrates is called

a. Glycogenesis b. Gluconeogenesis c. Lipogenesis d. Glycogenolysis

12. Match the followings and find out the correct combination

Cells	**Secretion**
A) Zymogen Cells	I) Mucus
B) Neck Cells	II) Pepsinogen
C) Parietal Cells	III) Gastrin
D) G-Cells	IV) Castle's intrinsic factor

	A	B	C	D		A	B	C	D
a.	III	I	IV	II	b.	II	IV	I	III
c.	III	IV	I	II	d.	II	I	IV	III

13. Read the following

I. Health and vigour of epithelial tissues-vitamin A

II. Health and integrity of muscles-vitamin E

III. Integrity of endothelium -vitamin C

IV. Functioning of gonads-vitamin E

Which of the above are true?

a. All are true b. All except IV c. All except II d. All are false

14. Which of the following substances are absorbed into the cells and into blood by diffusion?

a. Amino acids b. Fructose

c. Short chain fatty acids d. Long chain fatty acids

15. Following are the enzymes that act up on proteins. Arrange them in a sequence of their action

a) Dipeptidase b) Pepsin c) Carboxypeptidase d) Tripeptidase e) Trypsin

a. e-b-d-c-a b. b-e-c-d-a c. c-a-d-b-e d.d-c-a-b-d

16. Mineral required for the formation of insulin is

a. Sulphur b. Iodine c. Cobalt d. Copper

17. Proteolytic enzymes which act in acidic medium are

a. Chymotrypsin, rennin b. Pepsin, Rennin

c. Pepsinogen,Trypsinogen d. Pepsin, Trypsin

18. Correct statement from the following is

a. Pyloric sphincter regulates the flow of food in to the duodenum

b. Lower oesophageal sphincter prevents backward flow of food into duodenum

c. Pylorus is present between pyloric stomach and fundic stomach

d. Cardia is present between cardiac stomach and fundic stomach.

19. Stensen's duct and wharton's duct are associated with the following glands

a. Parotid & sub maxillary b. Parotid & sublingual

c. Sub maxillary & sublingual d. Sublingual & Infra orbital

20. Dietetics' is related to the study of

a. Nutritional disorders b. Chemical nature of food

c. Food stuff and nutrition d. Minerals & Vitamin

21. Decreased blood pressure, low pulse rate, lowers than normal body temperature and mental retardation are the symptoms of

a. Obesity b. Marasmus c. Kwashiorkor d. Carcinoma

22. Match the following

A) Enterokinase	1) Pancreatic juice
B) Trypsionogen	2) Bile juice
C) HCl	3) Saliva
D) Ptyalin	4) Intestinal juice
	5) Gastric juice

The correct match is:

	A	B	C	D		A	B	C	D
a.	3	5	2	1	b.	4	5	2	1
c.	4	1	5	3	d.	1	4	5	2

23. Match the following

A) Brunner's glands	i) Pulp cavity
B) Casein	ii) Ileum
C) Odontoblasts	iii) Duodenum
D) Crypts of Lieberkuhn	iv) Rennin

	A	B	C	D		A	B	C	D
a.	i i i	i	iv	i i	b.	i i i	iv	i	i i
c.	i i	iv	i	i i i	d.	i i	iv	i i i	i

24. Study the following

Structure	**Associated**	**Function**
i) Islets of Langerhans	Pancreas	Secretion of pancreatic juice
ii) Cystic duct	Gall bladder	Flow of gastric juice
iii) Stensen's duct	Parotid gland	Carries saliva into buccal cavity
iv) Wharton's duct	Infra orbital gland	Flow of saliva

Which of the above two are **correct?**

a. i & ii b. ii & iii c. Only iii d. ii & iv

25. Arrange the following secretions of digestive glands into the alimentary canal from anterior to the posterior end

A. Pancreas B. Liver C. Rectum D. Stomach E. Buccal cavity
F. Vestibule G. Pharynx

a. ABCDEFG b. CDBFAEG c. FGBDACE d. FEGDBAC

26. Match the following:

Sphincter	**Location between**
A) Sphincter of oddi	I) Bile duct and proximal limb of duodenum
B) Lower oesophageal sphincter	II) Pyloric stomach and duodenum
C) Pyloric sphincter	III) Pharynx and oesophagus
D) Upper oesophageal sphincter	IV) Oesophagus and cardiac stomach

The correct match is:

	A	B	C	D		A	B	C	D
a.	I	II	III	IV	b.	I	II	IV	III
c.	I	IV	II	III	d.	II	I	III	IV

27. Assertion (A): Flow of bile into duodenum is controlled by sphincter of Oddi

Reason (R): Opening of common bile duct into duodenum is guarded by Oddi sphincter

a. A and R are correct and R is the correct explanation of A

b. A and R are correct and R is not the correct explanation of A

c. A is true R is false

d. A is false R is true

28. Assertion (A): Urea is produced by Liver

Reason (R): Ornithine cycle takes place in liver

a. A and R are correct and R is the correct explanation of A

b. A and R are correct and R is not the correct explanation of A

c. A is true R is false

d. A is false R is true

29. Locations of palatine pharyngeal and lingual tonsils respectively are:

a. Throat, nasopharynx and back of the tongue

b. Nasopharynx, back of the tongue and throat

c. Throat, laryngopharynx and orophanrynx

d. Throat, back of the tongue and laryngopharynx

30. Arrange the intermediary products formed during the process of digestion of proteins

a. Peptones b. Amino acids c. Polypeptide d. Proteins e. Tripeptides f. Dipeptides

a. d-c-a-e-f-b b. d-a-e-c-f-b c. a-d-c-e-f-b d. d-a-c-e-f-b

31. One of the following function is not performed by the bile juice

a. Conversion of acidic chyme into alkaline nature

b. Emulsification of fats

c. Digestion of fats

d. Absorption of products of digested fats

32. Sphincter of oddi regulates the flow of

a. Chyme from pyloric stomach into duodenum

b. Pancreatic juice from pancreas into duodenum

c. Succus entericus from ileum into duodenum

d. Bile juice from gall bladder into duodenum

33. Which vitamin deficiency is reported from person who eats raw eggs?

a. Vitamin that maintains integrity of matrix of skeletal tissues and provides resistance against infections

b.Vitamin that acts as a coenzyme for enzyme carboxylase

c. Vitamin that is commonly called anti pellagra vitamin

d. Vitamin that forms component of FMN and FAD

34. The following are the statements about enzyme pepsinogen

A. It is an inactive proteolytic enzyme

B. It is activated by HCl only

C. The active form of this enzyme having auto catalytic property

D. The products of digestion of proteins by pepsin include proteoses, peptones and paracasein

a. A and D b. B and C c. A and C d. C and D

35. The following parts are related to the teeth

A. Dentine B. Lining odontoblasts C. Periodontal membrane D. Pulp cavity E. Cement

Arrange them in **correct** sequence from central cavity towards the socket

a. D-B-A-C-E b. D-A-B-E-C c. D-B-A-E-C d. D-A-B-C-E

36. Match the following:

Process	**Organs concerned**
A) Egestion	I) Mouth, Buccal cavity & pharynx
B) Digestion	II) Rectum & Anus
C) Absorption	III) Stomach & Small Intestine
D) Ingestion	IV) Small intestine & large intestine

a. A-II,B-III,C-IV,D-I b. A-II,B-IV,C-III,D-I c. A-I,B-III,C-IV,D-II d. A-II,B-I,C-IV,D-III

37. Which of the following regions of the alimentary canal does not secrete a digestive enzyme?

a. Oesophagus b. Stomach c. Duodenum d. Ileum

38. Pepsin differs from trypsin in that it digests

a. Proteins in acidic medium in duodenum b. Proteins in acidic medium in stomach

c. Proteins in alkaline medium in duodenum d. Proteins in alkaline medium in stomach

39. Anus is guarded by

a. Internal anal sphincter of striated muscles and external anal sphincter of smooth muscles

b. Internal anal sphincter of smooth muscles and external anal sphincter of striated muscles

c. Both internal and external anal sphincters of striated muscles

d. Both internal and external anal sphincters of smooth muscles

40. Mineral essential for the formation of RBC is

a. Iodine b. Calcium c. Manganese d. Cobalt

41. Emulsified fats are digested by

a. Gastric juice and pancreatic juice b. Pancreatic juice and bile juice

c. Bile juice and intestinal juice d. Intestinal juice and pancreatic juice

42. Statements-I(S-I) Liver performs gluconeogenesis

Statement(S-II): Liver converts glycogen into glucose whenever glucose is necessary

a. Both (S-I) and (S-II) are true and (S-II) is the correct explanation of (S-I)

b. Both (S-I) and (S-II) are true but (S-II) is not the correct explanation of (S-I)

c. (S-I) is true (S-II) is false d. (S-I) is false (S-II) is true

43. Glucose is the end product of which of the following in liver

a. Gluconegoenesis and glycogenesis b. Glycogenesis and lipogenesis

c. Lipogenesis and glycogenolysis d. Glycogenolysis and gluconeogenesis

44. Conversion of amino acids and lactate into glucose is called

a. Glucogenesis b. Glycogenolysis c. Glycogenesis d. Gluconeogenesis

45. The gland cells of stomach that secrete HCl are

a. Zymogen cells b. Chief cells c. Oxyntic/Parietal cells d. Mucus cells

KEY

1.	a	11.	b	21.	c	31.	c	41.	d
2.	a	12.	d	22.	c	32.	d	42.	b
3.	d	13.	a	23.	b	33.	b	43.	d
4.	a	14.	c	24.	c	34.	c	44.	d
5.	d	15.	b	25.	d	35.	c	45.	a
6.	a	16.	a	26.	c	36.	a		
7.	d	17.	b	27.	a	37.	a		
8.	d	18.	a	28.	a	38.	b		
9.	a	19.	a	29.	a	39.	b		
10.	c	20.	c	30.	d	40.	d		