

## DPP

DAILY PRACTICE PROBLEMS

Class : XI<sup>th</sup>

Date :

### Solutions

Subject : BIOLOGY

DPP No. : 1

### Topic :- Digestion & Absorption

- 1 (a)  
Vitamin-B<sub>12</sub> (cyanocobalamin) is only vitamin not found in vegetable. It is present in animal protein such as meat, liver, fish, etc. Recently, it has been considered that the alga *Spirulina* (single cell protein or SCP) also contains this vitamin.
- 2 (b)  
Cholecystokinin, a hormone secreted from intestine causes contraction of gall bladder to release bile into duodenum.
- 3 (a)  
In infants, defecation is not under voluntary control and it takes place by reflex actions, *i.e.*, process of defecation occur by the reflex action without the voluntary control of external anal sphincter. Both involuntary and voluntary muscles are directed by brain
- 4 (c)  
Vitamin-E or tocopherol is obtained from green leafy vegetables, seed oils, milk, cheese, butter, egg, etc. It is an antisterility factor and is antioxidative for membrane lipids, skin (reduces keratinization) and hair, reduces atherosclerosis and inhibits oxidation of vitamin-A and unsaturated fatty acids. Its deficiency causes erythrocyte break down (anaemia) muscular dystrophy (cramps), miscarriage and reduced fertility.
- 5 (d)  
Brunner's glands are simple, branched tubular glands presents in the submucosal layer of duodenum. Brunner's glands open in crypts of Lieberkuhn. The goblet cells of Brunner's glands secrete mucus, which helps in lubricating the food and separate the solid particles of food.
- 6 (a)  
The correct chronological order of food processing in human beings is  
Ingestion (Taking food) → Digestion → Absorption → Egestion (Undigested) → Assimilation
- 7 (b)  
Vitamin-B<sub>2</sub> is riboflavin.
- 8 (d)  
**Glycogen** is the reserve food in animals that's why, it is also called animal starch.
- 9 (d)  
In **small intestine**, the wall of duodenum contains crypts of Lieberkuhn (intestinal glands) and Brunner's glands (duodenal glands). The intestinal juice or **succus entericus** is secreted by **crypts of Lieberkuhn**.  
Pancreatic juice contains trypsin, for digesting protein and pancreatic amylase (amylase) for breakdown of starch and pancreatic lipase (steapsin) acting upon emulsified fats.
- 10 (d)  
Vitamin-B complex and vitamin-C are water soluble, while vitamin-A, D, E and K are fat soluble. Vitamin -C (ascorbic acid) has antioxidant property. The rich source of vitamin-C are citrus fruits.
- 11 (b)  
**Oxyntic or parietal cells** are located upon the surface of the gastric glands and secrete hydrochloric acid.
- 12 (c)  
Human tooth consists of enamel, dentine, cement, periodontal ligament and pulp cavity. Pulp

- cavity is enclosed by dentine. Narrow extension of the pulp cavity, which runs through the root of the tooth is known as root canals
- 13 **(b)**  
Liver, the largest digestive gland of the body performs various function. The synthesis of glucose or glycogen from non-carbohydrate sources such as amino acids, glycerol, etc, is called gluconeogenesis. The process takes place when glycogen supply in the liver is exhausted. Gluconeogenesis involves the conversion of excess of glucose into glycogen by liver with the help insulin hormone. Glycogenolysis involves the conversion of glycogen into glucose
- 14 **(a)**  
Due to the deposition of bile pigments, the eyes of patients turns down to be yellow during jaundice
- 15 **(b)**  
The disease xerophthalmia is caused due to deficiency of fat soluble vitamin-A (retinol). Calciferol or vitamin-D is also fat soluble but its deficiency disease are rickets, osteomalacia and dental caries. Pellagra is caused due to niacin (vitamin-B<sub>3</sub>) deficiency.
- 16 **(a)**  
Duodenum of small intestine possesses Brunner's gland, which secretes large amount of mucous and bicarbonates, which in turn, proteins, the duodenal mucosa and neutralises the acidic chyme. It also secretes two hormones, secretin and cholecystokinin. However, secretin is secreted by duodenal wall and cholecystokinin is secreted by the epithelium of small intestine
- 17 **(d)**  
Cyanocobalamin or vitamin-B<sub>12</sub> is obtained from milk, egg, liver, fish and also synthesized by some colon bacteria. The deficiency (hypovitaminosis) of vitamin-B<sub>12</sub> or cyanocobalamine causes pernicious anaemia, demyelination of never fibres and glossitis (inflammation of tongue).
- 18 **(b)**  
In human being, digestion process starts from the mouth, continues in stomach and is completed in small intestine of the gut. About 25-30% of carbohydrates (polysaccharides) are digested or converted into disaccharides (maltose) in the buccal cavity. Rest of the digestion of carbohydrates is completed in small intestine of human alimentary canal
- 19 **(d)**  
Vitamins are necessary for normal cell functioning. These can be grouped into two categories water soluble (vitamin-B complex and and-C) and fat soluble (vitamin-A, D, E and K)
- 20 **(c)**  
*E. coli* lives in the colon part of large intestine of humans. The cells of *E. coli* produce bacteriocin proteins. This bacteria is symbiont of human intestine and produce vitamins which are absorbed by the wall of colon

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	A	B	A	C	D	A	B	D	D	D
Q.	11	12	13	14	15	16	17	18	19	20
A.	B	C	B	A	B	A	D	B	D	C