First year Biology complete notes

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CHAP 12

AUTOTROPHIC NUTRITION: Type of nutrition (mostly in plants) in which plants make organic molecule of glucose with the help of in-organic material such as carbon di oxide and water.

PARASITIC PLANT: A plant which is unable to make its food and obtains nutrition from other organism.

PARTIAL PARASITE PLANT: A plant which obtains some part of nutrition from other organisms is called partial parasite plant.

TOTAL PARASITE PLANT: A plant which gets nutrients as well as water from host plant and kills it, is called total parasite plant.

HUSTORIA: Special branches developed by a parasite plant. These hustoria are inserted into host plant to get its nutrients and water

PHOTOSYNTHETIC BACTERIA: A group of autotrophic bacteria, which make their food by photosynthesis. The bacterial photosynthesis is slightly different from plants, because plants obtain their Hydrogen from water and release Oxygen, while bacteria get their Hydrogen from Hydrogen sulphide and release sulpher.

CHLOROSIS: A disorder of plants due to deficiency of nitrogen. During this disorder, the chlorophyll gradually disappears, and leaf become yellow and finally fell down.

PROLONG DORMANYC: A condition (mainly due to deficiency of nitrogen) in which seed does not germinate on time and the process is delayed for long time.

EARLY SENSATION: A condition, in which, the plant becomes old earlier than natural age. It is mainly due to mineral deficiency.

REDUCED TILLERING: A condition, in which, the new parts of plants do not grow, due to deficiency of minerals.

INHIBITION OF CELL DIVISION: A condition in which the cell do not divide. It is also due to deficiency of minerals.

IRREGULA CHLOROSIS: A kind of Chlorosis, in which the chlorophyll disappears form some parts of leaf.

TOTAL PARASITIC PLANT: A plant which is completely dependent on its host

PARTIAL PARASTE PLANT: A plant which gets some nutrients from plant n(not complete)

SAPROPHYTES: Plants, bacteria, or fungi, which get their nutrition from dead organisms

CARNIVOROUS PLANTS: Plants which are unable to get their nutrients in autotrophic way, depend on insects to obtains proteins and minerals from them

PITCHER PLANT: A carnivorous plant, which has modified its leaf apex into pitcher shape to catch the flies.

SUNDEW: A carnivorous plants

VENUS FLY: A carnivorous plant about which Charles Darwin said that it is the most wonderful plants of world.

NECTOR: Sweet juices, which carnivorous plants secrete to attract the insects.

WATER FLY TRAP: A root-less carnivorous plant

BLADDER WORT: A root-less carnivorous plant

HOLOZOIC NUTRITION: Heterotrophic animals which exclusively feed up on animal stuff

SAPROTROPHIC NUTRITON: Heterotrophic animals which exclusively feed up on dead plant stuff

DETRITIVORES: A kind of nutrition in which animals which feed up on fragments (pieces) of food. E.g. Earthworm

CARNIVORES: Animals which feed on flesh of animals. E.g. Lion

OMNIVORES: Animals which can eat any thing. E.g. Man, Crow & Cockroach

FILTER FEEDERS: Animals which get food from filtered water. E.g. Sponge

FLUID FEEDERS: Animals which depend on liquid food. E.g. Mosquito

MICROPHAGOUS: Animals that feed up on food material smaller than their body size

MACROPHAGOUS: Animals that feed up on food material larger than their body size

DIVERTICULA: Net work of intestinal branches in cockroach (also in other arthropods). These help in

pushing the digested food material into tissues.

GIZZARD: A part of digestive system in arthropods (E.g. Cockroach). It has hard ridges inside which help in grinding of food.

DIGESTION

INGESTION

Intake of food material into body

DIGESTION

Conversion of un-soluble food material into soluble form

MECHANICAL DIGESTION

Breakdown of larger food pieces with the mechanical action of teeth and stomach contraction and relaxation

CHEMICAL DIGESTION

Digestion of food with the addition of chemicals internally produced by body***. e.g.*** ***Carbohydrase*** converts carbohydrates into glucose

ASSIMILATION

Entrance of digested food material into body cells

CELLULAR RESPIRATION

Burning of glucose inside the cells for the release of energy

EGESTION

Removal of un-digested food particles from body

EXTRA-CELLULAR DIGESTION

Digestion of food material out side the cells.
E.g. Digestion of food in the coelomic cavity of Hydra

ENTRACELLULAR DIGESTION

Digestion of food material inside the cells.
E.g. digestion of food inside the cell of Amoeba or inside the body wall of Hydra

DIGESTION IN AMOEBA

It is only intra-cellular

DIGESTION IN PARAMECIUM

It is also intra-cellular

CYTOPHYGE

A temporary opening in paramecium from which the waste material is removed from body

DIGESTION IN HYDRA

It is both intra and extra-cellular

GASTROCOEL

The lining of body wall of hydra where from the digestive enzymes are released

NEMATOCYSTS

A structure in the body wall of Hydra. It helps to kill the prey

DIGESTION IN PLANARIA

Digestion is both extra and intra-cellular

DIVERTICULA

The small branches of intestine

DIGESTION IN EARTHWORM

The digestion is both extra and intra-cellular

GIZZARD

A muscular structure present in earthworm, which helps in mechanical digestion of food

TYPHLOSOLES

It is the inner surface of intestine where from the digested food material is absorbed in earthworm

DIGESTION IN MAN

It is mainly mechanical and chemical

DIGESTION IN MOUTH

In mouth the mechanical digestion of entire food takes place. The protein and lipids remain undigested, where as the carbohydrates are partially digested here with the help of salivary amylase enzyme produced in saliva. This enzyme converts the food starch which is polysaccharide into maltose which is disaccharide

PLAQUE: A disease of teeth which results due to accumulation of bacterial material and saliva. The material penetrates into gums and causes swelling. Plaque for long duration may harm the teeth which finally fall down.

CALCULUS: Deposition of various chemicals over plaque material is called calculus. During, this yellow tan appear on teeth enamel and may not be removed by any brush.

DENTAL CARIE: If a person takes sweets and does not wash mouth, the sugar of sweet may be fermented and converted into acid. The acid may damage the teeth after long time. Other than sweets, deficiency of fluoride and improper mouth wash are also reasons behind dental caries.

PAROTID GLAND: One of the three salivary glands of tongue

SUBLINGUAL GLAND: One of the three salivary glands of tongue

SUBMANDIBULAR GLAND: One of the three salivary glands of tongue. All these glands secrete saliva.

SALIVA: Secretion of salivary gland. It is made up of 95 % water and remaining is mucous, lysozyme and salivary amylase.

BOLUS: Rounded mass of food which is swallowed. It move through esophagus by peristalsis moment

GASTRIN: Hormone secreted by fundus part of stomach. It stimulates the gastric gland to secrete Hcl, Pepsinogen and mucous.

SECRETIN: A hormone secreted by duodenum. It stimulates the pancreas to secret pancreatic juices, such as protease, carbohydrase and lipase.

BILIRUBIN: A red color excretory product formed b the breakdown of hemoglobin of RBCs in liver.

BILIVERDIN: A green color excretory product formed b the breakdown of hemoglobin of RBCs in liver

TRYPSIN: An inactive pre-cursor which is activated by enterokinas enzyme produced by duodenum. It acts up on proteins and digests them

CHEMOTRYPSIN: An enzyme which converts milk protein (Casien)
AMYLASE: An enzyme which converts starch and glycogen into maltose.
DUODENUM: One of the first part of small intestine. It is 30 cm long.

JUJENUM: One of the middle parts of small intestine. It is 2.4 meters long

ILUM: One of the last parts of small intestine, which is 3.6 meters long. Here absorption of food occur by villi

BOLUS

In the mouth the chewed food is converted into a ball like structure called bolus. This is sent into stomach through esophagus

STOMACH

Following things happen here

(1) Mechanical breakdown of food takes place
(2) The gastric gland in stomach produces, Mucus, HCL and Pepsinogen. (3) The mucus prevents the stomach wall from the acidic effect of HCL. (4) HCL converts Pepsinogen into pepsin. (5) The HCL macerates food properly (6) the pepsin makes partial digestion of protein by breaking the peptide bond.

CHYME

The conversions of food into a paste like material in stomach

SMALL INTESTINE

Following things happens here

(1) The duodenum receives digestive enzymes from pancreas and bile salt from liver

CARBOHYDRASE

An enzyme which completely digests the carbohydrates into glucose

anus - the opening at the end of the digestive system from which feces (waste) exits the body.
appendix - a small sac located on the cecum.
ascending colon - the part of the large intestine that run upwards; it is located after the cecum.
bile - a digestive chemical that is produced in the liver, stored in the gall bladder, and secreted into the small intestine.
cecum - the first part of the large intestine; the appendix is connected to the cecum.
chyme - food in the stomach that is partly digested and mixed with stomach acids. Chyme goes on to the small intestine for further digestion.
descending colon - the part of the large intestine that run downwards after the transverse colon and before the sigmoid colon.
duodenum - the first part of the small intestine; it is C-shaped and runs from the stomach to the jejunum.
epiglottis - the flap at the back of the tongue that keeps chewed food from going down the windpipe to the lungs. When you swallow, the epiglottis automatically closes. When you breathe, the epiglottis opens so that air can go in and out of the windpipe.
esophagus - the long tube between the mouth and the stomach. It uses rhythmic muscle movements (called peristalsis) to force food from the throat into the stomach.
gall bladder - a small, sac-like organ located by the duodenum. It stores and releases bile (a digestive chemical which is produced in the liver) into the small intestine.
ileum - the last part of the small intestine before the large intestine begins.
jejunum - the long, coiled mid-section of the small intestine; it is between the duodenum and the ileum.
liver - a large organ located above and in front of the stomach. It filters toxins from the blood, and makes bile (which breaks down fats) and some blood proteins.
mouth - the first part of the digestive system, where food enters the body. Chewing and salivary enzymes in the mouth are the beginning of the digestive process (breaking down the food).
pancreas - an enzyme-producing gland located below the stomach and above the intestines. Enzymes from the pancreas help in the digestion of carbohydrates, fats and proteins in the small intestine.
peristalsis - rhythmic muscle movements that force food in the esophagus from the throat into the stomach. Peristalsis is involuntary - you cannot control it. It is also what allows you to eat and drink while upside-down.

rectum - the lower part of the large intestine, where feces are stored before they are excreted.
salivary glands - glands located in the mouth that produce saliva. Saliva contains enzymes that break down carbohydrates (starch) into smaller molecules.
sigmoid colon - the part of the large intestine between the descending colon and the rectum.
stomach - a sack-like, muscular organ that is attached to the esophagus. Both chemical and mechanical digestion takes place in the stomach. When food enters the stomach, it is churned in a bath of acids and enzymes.
transverse colon - the part of the large intestine that runs horizontally across the abdomen.

PROTEASE

An enzyme which completely digests proteins into amino acids

LIPASE

Their function is to digest lipids, but since lipids are heavy, so they are first broken down by bile salts and later on digested by lipase into fatty acids and glycerol

VILLI

In duodenum and ileum is completely digested, so its absorption is due. The absorption of nutrients takes place by Villi. These are the out growth of intestinal wall. Blood capillaries and lacteals supply villi. From blood capillaries, the glucose, and amino acids are absorbed and from lacteals fatty acids and glycerol is absorbed.

LARGE INTESTINE

The partial digestion of cellulose takes place with the help of symbiotic bacteria, which donate cellulase enzyme to the appendix, which is a vestigial part of large intestine. In the colon part of large intestine water is absorbed and returned to body

ORGAN	SPECIAL FEATURES	FUNCTIONS
MOUTH	Teeth, Tongue Saliva	Chewing of food, Digestion of starch
OESOPHAGUS		Movement of bolus
STOMACH	Gastric glands	Storage of food, production of mucus, HCL and Pepsinogen, Partial digestion of proteins into peptide
SMALL INTESTINE	Villi	Digestion of all food, Absorption of nutrients
LARGE INTESTINE	Villi	Partial digestion of cellulose, absorption of water, and

		vitamins, and storage of non-digested food in rectum
ANUS		Defecation

ROLE OF LIVER

Liver performs following functions

1. After every meal, it stores extra amount of glucose in the form of glycogen which may be used as source of energy at the time of need when there is no glucose in body.
2. Liver removes extra amount of nitrogen from amino acids
3. Liver stores the fatty acids in the form of ketone bodies which are later on released as energy into muscles
4. Liver breaks down the poisonous material and makes them harmless
5. Liver stores vitamins
6. Produces substances which in blood clotting
7. It keeps blood composition constant
8. It excretes out bilirubin and biliverdin

DIARRHOEA: Passing of watery feces

ENTRITIS: A form of diarrhea caused by virus or bacteria.

CHOLERA: A form of diarrhea in which extreme quantity of bicarbonate ions is secreted by intestine. The cause of cholera is Vibro cholera

PSYCHOGENIC DIARRHOEA: A form of diarrhea caused by nervous tension

DYSENTRY: It is defined as an acute inflammation of large intestine in which diarrhea with blood and mucous is passed. It is caused by Bacillus bacteria or *Entamoeba histolytica*

CONSTIPATION: A disorder in which slow movement of dry and hard feces occur through the large intestine from anus. The main cause of constipation are (1) irregular bowl and inhibition of signals from brain to rectum.

DYSPEPSIA: A disorder which is caused due to movement of Hcl from stomach to esophagus. It is also called epi-gastric discomfort.

PEPTIC ULCER: A dis-order of duodenum. It is caused when gastric juice moves from stomach to duodenum. The main cause is excessive secretion of Hcl and pepsin.

FOOD POISONING: A condition which results into vomiting and diarrhea. It is mainly due to virus, bacteria and protozoa (such as E. histolytica and Balantidium coli).

MALNUTRITION: It refers to over eating or under eating.

OBESITY: A disorder during which excessive fat is deposited on body. It is caused if a person takes

lavish food and does not exercise.

ANOREXIA NERVOSA: A disorder of young girls in which they loose appetite for food and refuse to eat.

BULIMIA NERVOSA: A disorder of middle age women in which they develop liking for rich food and eat a lot. These women do not have any control on eating and keep eating all the times.

PRACTICE SHEET

1. Living organism require nutrition
(a) to maintain functions of life
(b) Built the matter (TUSSUES)
(c) Maintain their structures
(d) All of above

2. The main nutrients for living organisms are
(a) Water
(b) Carbon Di oxide
(c) Both a& b
(d) None

3. In autotrophic nutrition, the organic food material is made from
(a) Inorganic raw material
(b) Organic substances
(c) Both a&b
(d) None

4. The autotrophic organisms
(a) Need to digest their food
(b) Do not need to digest their food
(c) Depends on condition
(d) None

5. Although some autotrophic organism can do chemo-synthesis, but most are photosynthetic
(a) True
(b) False

6. Most fungi, Bacteria and animals have heterotrophic nutrition
(a) True
(b) False

7. Which one of the following is not serving as main source of energy
(a) Carbohydrates
(b) Lipids
(c) Proteins
(d) In-organic salts

8. One point that makes Bacteria different from plants is that
(a) Bacteria can not do photosynthesis with chlorophyll a
(b) Bacteria can not do photosynthesis with chlorophyll B
(c) Both a&b
(d) None

9. For photosynthesis, Bacteria obtains Hydrogen from
(a) Water
(b) Hydrogen sulphide from atmosphere
(c) They don't require hydrogen
(d) They make their own hydrogen by cell membrane

10. In chemosynthetic nutrition, Bacteria oxidize ammonia, nitrates, nitrite, ferrous ions, hydrogen sulphide and number of metallic and non-metallic particles
(a) True
(b) False

11. In nature, the amount of nitrogen is recycled by
(a) Bacteria
(b) Fungi
(c) Algae
(d) All

12. The commercial fertilizers are made on NPK percentage
(a) True
(b) False

13. Nitrogen is an essential element for all except
(a) Protein
(b) Nucleotides of DNA
(c) Chlorophyll
(d) Starch

14. Chlorosis is a mineral deficiency disease in which leaves turn pale and fall. It is primarily due to deficiency of
(a) Potassium
(b) Nitrogen
(c) Mg
(d) None

15. Due to Nitrogen deficiency, in tomato and apple leaves, the veins of leaves turn purple red due to development of
(a) Anthocyanin
(b) Carotene
(c) Both

(d) None

16. Prolonged dormancy, early sensation, and leaf fall are the symptoms of deficiency of
(a) K
(b) N
(c) Mg
(d) P

17. One of the following is found abundant in growing and storage organs of fruits and seeds
(a) N
(b) P
(c) Mg
(d) K

18. Phosphorous is really good for plants, because it helps in
(a) Ripening of fruit
(b) Helping translocation of carbohydrate
(c) Formation of cell membrane
(d) All

19. Pre-mature leaf fall, development of purple red spots on leaves, reduced Tillering of crops are mainly due to deficiency of
(a) N
(b) P
(c) K
(d) Mg

20. Potassium help plants in
(a) Opening & closing of stomata
(b) Activation of enzymes
(c) Synthesis of peptide bonds
(d) All of above

21. Irregular chlorosis, necrotic areas on tip & margin of leaves, reduced crop production are mainly due to deficiency of
(a) K
(b) P
(c) Mg
(d) N

22. Magnesium, in case of deficiency is taken from older to young tissue to fulfill the requirement
(a) True
(b) False

20. Potassium help plants in

(a) Opening & closing of stomata
(b) Activation of enzymes
(c) Synthesis of peptide bonds
(d) All of above

.23(B) For obtaining their food requirements, parasitic plants penetrate -------- in host
(a) Haustoria
(b) Rhizoids
(c) Roots
(d) All of above

23. ©Who said that carnivorous plants make digestive enzymes same as human stomach e.g. Pepsin
(a) J.D. Hooker
(b) Robert Hook
(c) Both a&b
(d) None

24. carnivorous plants do photosynthesis, but they can not make nitrogenous compounds, that is why they have become carnivorous
(a) True
(b) False

25. Carnivorous plants attract insect through
(a) Odour
(b) Nectar (sweet juices)
(c) Both a&b
(d) None

26. Which plant Charles Darwin called the 'Wonderful plant of the World'
(a) Pitcher plant
(b) Sundew
(c) Venus fly
(d) None

27. Which one in not a carnivorous plant
(a) Pitcher plant
(b) Sundew
(c) Venus fly
(d) All are carnivorous plants

28. Which of the following are root-less carnivorous plant
(a) Water fly
(b) Bladder Wort
(c) Venus fly
(d) Both a&b

29. Which one of the following types of nutrition in not found in animals

(a) Holozoic
(b) Saprozoic
(c) Holophytic
(d) All

30. Animals which feed on fragments of decomposed food are called

(a) Carnivorous
(b) Filter feeders
(c) Fluid feeders
(d) Detrivores

31. Earth worm is an example of which type of feeding

(a) Carnivorous
(b) Filter feeders
(c) Fluid feeders
(d) Detrivores

32. Human beings, Crow and Cockroach have similarity because they are

(e) Carnivorous
(f) Herbivorous
(g) Omnivorous
(h) All

33. The most popular example of filter feeders is

(i) Sponge
(j) Hydra
(k) Planaria
(l) None

34. Which one of the following is mis-match

(m) Lion-------Predator
(n) Mosquito----Fluid feeder
(o) Earthworm------Detritiovorous
(p) Cow----------carnivorous

35. Animals need to digest the food to convert the food

(q) From soluble to insoluble form
(r) Insoluble to soluble form
(s) Some food does not need to be digested
(t) None

36. In organisms like Amoeba, and Paramecium, food material is digested inside cells and termed as

(u) Intracellular digestion
(v) Intercellular digestion
(w) Extra cellular digestion
(x) All

37. If an organism has single opening for ingestion and egestion, such type of digestive system is termed as

(y) Tube like
(z) Sac like
(aa) Protostomes
(bb) Both a&c

38. Planaria and hydra have sac-like digestive system, therefore they are called

(cc) Protostomes
(dd) Duterostomes
(ee) Both a&b
(ff) None

39. Which one from following may never have tube like digestive system

(gg) Man
(hh) hydra
(ii) fish
(jj) Cockroach

40. Absorption is

(kk) Pre-digestion process
(ll) Post digestion process
(mm) Both a&b
(nn) None

41. In protozoans, digested food is diffused into cytoplasm and circulated through

(oo) Cyclosis
(pp) Osmosis
(qq) Diffusion
(rr) None

42. Amoeba has intra cellular digestion. It uses lysosomes, and enzymes such as all except one

(ss) Proteases
(tt) Amylases
(uu) Lipases
(vv) Pepsin

43. Hydra has intra and extra-cellular digestion and is termed as simplest heterotroph

(ww) True
(xx) False

44. In tentacles of hydra, cells which paralyze the prey are

(yy) Conidocils
(zz) Nematocysts
(aaa) Nedaoblast
(bbb) All

45. Hydra can digest all except one

(ccc) Proteins
(ddd) Fats
(eee) Carbohydrates
(fff) Starch

46. It takes a hydra to complete its extra-cellular digestion in

(ggg) 1 hour
(hhh) 2 hours
(iii) 3 hours
(jjj) 4 hours

47. The digestion in Hydra is
(kkk) Extra cellular
(lll) Intra cellular
(mmm) Both extra and intracellular
(nnn) None

48. The Planaria has both extra and intra cellular digestions. The complete digestion of food occur in Diverticula
(ooo) True
(ppp) False

49. Sensory organs which Cockroach uses to find its food are called
(qqq) Tentacles
(rrr) Antennae
(sss) Eyes
(ttt) All

50. Which condition causes serious tanning of teeth that can not be cleaned by brush
(uuu) Calculus
(vvv) Dental caries
(www) Periodontal disease
(xxx) All

51. Saliva is a watery secretion that contains
(yyy) 95% water
(zzz) Some mucous
(aaaa) Amylase and lysozyme
(bbbb) All

52. The production of gastric juices is stimulated after secretion of stomach hormone called
(cccc) Rennin
(dddd) Gastrin
(eeee) Secrin
(ffff) None

53. Before digestion, fats need emulsification by bile salts
(gggg) True
(hhhh) False

54. Pancreas can not secrete juices until stimulated by duodenum hormone
(iiii) Secretin
(jjjj) Gastrin
(kkkk) Rennin
(llll) None

55. Before absorption, fatty acids and glycerol are not converted into triglycerol
(mmmm) True
(nnnn) False

56. The absorption of digested food occur by
    (oooo) Osmosis
    (pppp) Active transport
    (qqqq) Facilitated diffusion
    (rrrr) All

57. The bile salts are stored in gall bladder, but made in
    (ssss) Pancreas
    (tttt) Small intestine
    (uuuu) Stomach
    (vvvv) Liver

58. One reason, pepsin is secreted in inactive form is
    (wwww) It would digest its own cells
    (xxxx) Should become active when food arrives
    (yyyy) Both a&b
    (zzzz) None

59. Vomiting is caused due to
    (aaaaa) Peristalasis
    (bbbbb) Anti peristalasis
    (ccccc) Facilitated diffusion
    (ddddd) When you look at **Mama Lalu**

60. **Psychogenic is called so, because it is caused by**
    (a) Nervous tension
    (b) Griping pain
    © Contaminated water
    (d) Salads

61. **Acute inflammation of large intestine, in which diarrhea with blood and mucus in** stool appear is
    (a) Enteritis
    (b) Cholera
    © Dysentery
    (d) All

62. **All except one is not cause of Constipation**
    (a) Irregular bowl
    (b) Inhibition of defecation reflexes from brain
    © Intake of saltish food
    (d) None

63. The most common cause of Piles (hemorrhoid) is
    (a) Dysentery
    (b) Constipation
    © Both a&b
    (d) Smoking

64. A condition that develops immediately after meal, and may be due to peptic ulcer is called
(a) Dyspepsia
(b) Constipation
© Anorexia Nervosa
(d) None

65. Excessive secretion of acid and pepsin by gastric gland causes
(a) Peptic ulcer
(b) Dyspepsia
© Both a&b
(d) None

66. The common cause of food poisoning is
(a) Salmonella species of bacteria
(b) Irregular bowl
© Contaminated food
(d) All

67. Obesity is associated with increased mortality. It can occur in any age and is a genetic trait, but it generally starts from
(a) Middle age
(b) Juvenile age
© Old age
(d) None

68. Loss of appetite, refusal to food, induced vomiting are symptoms of
(a) Anorexia nervosa
(b) Bulimia nervosa
©Malnutrition
(d) Indigestion

69. Lack of self control over eating, desire for rich diets twice a week are the symptoms related with
(a) Bulimia nervosa
(b) Malnutrition
© Obesity
(d) All

70. **Where is mis-match**
(a) Athletes disease----------Fungi
(b) Amoebiasis ----------Protozoa
© Plague----------Bacteria
(d) Leprosy----------Virus

GOOD LUCK

NUMBER	CORRECT OPTION
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TEST-02

1. The planarian is an example of an animal with a complete gut.
    (a) True
    (b) false
2. The planarians only have intracellular digestion.
    (a) True
    (b) false
3. The earthworm only has extra-cellular digestion.
    (a) true
    (b) false
4. Digestion of food in humans is an extracellular process.
    (a) true
    (b) false
5. A flap of tissue called the epiglottis covers the opening to the esophagus.
    (a) true
    (b) false
6. Pepsin is a hydrolytic enzyme that acts on protein to produce peptides.
    (a) true
    (b) false
7. The last part of the small intestine is called the duodenum.
    (a) true
    (b) false
8. If pepsin digests the stomach lining an ulcer results.
    (a) true
    (b) false
9. The villi and microvilli greatly increase the effective surface area of the small intestine. (p. 674)
    (a) true
    (b) false
10. Bile salts emulsify protein.
    (a) True
    (b) false
11. Pancreatic juice has digestive enzymes that act on every major component of food.
    (a) True
    (b) false
12. What does a planarian's digestive system contain?)
    a. mouth
    b. pharynx
    c. intestine
    d. all of the above
13. Which is a filter feeder?
    a. marine sponge
    b. baleen whale
    c. both a and b
16. Gastric juice contains
    a. Hcl.
    b. pepsin.
    c. both a and b.

17. What is digested in the stomach?
    a. starch
    b. protein
    c. both a and b
18. Villi are found in the
    a. esophagus.
    b. stomach.
    c. small intestine.
    d. all of the above.
19. Pancreatic amylase digests
    a. starch.
    b. maltose.
    c. glucose.
20. Absorption of nutrients occurs in the
    a. small intestine.
    b. stomach.
    c. large intestine.
21. A lacteal is a
    a. blood vessel.
    b. lymph vessel.
    c. both a and b.
22. Sugars and amino acids are absorbed into the
    a. lacteals.
    b. bloodstream.
    c. both a and b.
23. Which is an accessory organ of digestion?
    a. liver
    b. pancreas
    c. both a and b
24. Pancreatic juice travels to the
    a. stomach.
    b. small intestine.
    c. large intestine.
25. Which is a function of the liver?
    a. detoxifying blood
    b. making blood proteins
    c. producing bile
    d. all of the above
26. Cirrhosis is a disease of the
    a. pancreas.
    b. liver.
    c. stomach.
27. Absorption of water occurs primarily in the
    a. small intestine.
    b. stomach.
    c. large intestine.
28. The colon is another name for the

a. small intestine.
b. stomach.
c. large intestine.

29. Vitamins
a. are produced by the body.
b. are needed for metabolism.
c. both a and b.

31. Trypsin digests
a. protein.
b. fat.
c. maltose.

60. Living organism require nutrition
(e) to maintain functions of life
(f) Built the matter
(g) Maintain their structures
(h) All of above

61. The main nutrients for living organisms are
(e) Water
(f) Carbon Di oxide
(g) Both a& b
(h) None

62. In autotrophic nutrition, the organic food material is made from
(e) Inorganic raw material
(f) Organic substances
(g) Both a&b
(h) None

63. The autotrophic organisms
(e) Need to digest their food
(f) Do not need to digest their food
(g) Depends on condition
(h) None

64. Although some autotrophic organism can do chemo-synthesis, but most are photosynthetic
(c) True
(d) False

65. Most fungi, Bacteria and animals have heterotrophic nutrition
(c) True
(d) False

66. Which on of the following is not serving as main source of energy
(e) Carbohydrates
(f) Lipids
(g) Proteins
(h) In-organic salts

67. One point that makes Bacteria different from plants is that
(e) Bacteria can not do photosynthesis with chlorophyll a
(f) Bacteria can not do photosynthesis with chlorophyll B
(g) Both a&b
(h) None

68. For photosynthesis, Bacteria obtains Hydrogen from
(e) Water
(f) Hydrogen sulphide from atmosphere
(g) They don't require hydrogen
(h) They make their own hydrogen by cell membrane

69. In chemosynthetic nutrition, Bacteria oxidize of ammonia, nitrates, nitrite, ferrous ions, hydrogen sulphide and number of metallic and non-metallic particles occur
(c) True
(d) False

70. In nature, the amount of nitrogen is recycled by
(e) Bacteria
(f) Fungi
(g) Algae
(h) All

71. The commercial fertilizers are made on NPK percentage
(c) True
(d) False

72. Nitrogen is an essential element of all except
(e) Protein
(f) Nucleotides of DNA
(g) Chlorophyll
(h) Starch

73. Chlorosis is a mineral deficiency disease in which leaves turn pale and fall. It is due to deficiency of
(e) Potassium
(f) Nitrogen
(g) Mg
(h) None

74. Due to Nitrogen deficiency, in tomato and apple leaves, the veins of leaves turn purple red due to development of

(e) Anthocyanin
(f) Carotene
(g) Both
(h) None

75. Prolonged dormancy, early sensation, and leaf fall are the symptoms of deficiency of

(e) K
(f) N
(g) Mg
(h) P

76. One of the following is found abundant in growing and storage organs of fruits and seeds

(e) N
(f) P
(g) Mg
(h) K

77. Phosphorous is really good for plants, because it helps in

(e) Ripening of fruit
(f) Helping translocation of carbohydrate
(g) Formation of cell membrane
(h) All

78. Pre-mature leaf fall, development of purple red spots on leaves, reduced Tillering of crops are mainly due to deficiency of

(e) N
(f) P
(g) K
(h) Mg

79. Potassium help plants in

(e) Opening & closing of stomata
(f) Activation of enzymes
(g) Synthesis of peptide bonds
(h) All of above

80. Irregular chlorosis, necrotic areas on tip & margin of leaves, reduced crop production are mainly due to deficiency of

(e) K
(f) P
(g) Mg
(h) N

81. Magnesium, in case of deficiency is taken from older to young tissue to fulfill the requirement

(c) True
(d) False

24 Which of the following in not true

(e) Silica is essential for growth of grasses
(f) Cobalt is necessary for nitrogen fixing bacteria to make nodules in roots
(g) Nickel is important for Soya bean
(h) All are correct
(i)

82. For obtaining their food requirements, parasitic plants penetrate -------- in host

(e) Haustoria
(f) Rhizoids
(g) Roots
(h) All of above

83. Who said that carnivorous plants make digestive enzymes same as human stomach e.g. Pepsin

(e) J.D. Hooker
(f) Robert Hook
(g) Both a&b
(h) None

84. carnivorous plants do photosynthesis, but they can not make nitrogenous compounds, that is why they have become carnivorous

(c) True
(d) (b) False

85. Carnivorous plants attract insect through

(e) Odour
(f) Nectar
(g) Both a&b
(h) None

86. Which plant Charles Darwin called the 'Wonderful plant of the World'

(e) Pitcher plant
(f) Sundew
(g) Venus fly
(h) None

87. Which one in not a carnivorous pant

(e) Pitcher plant
(f) Sundew
(g) Venus fly

(h) All are carnivorous plants

88. Which of the following are root-less carnivorous plant
(e) Water fly
(f) Bladder Wort
(g) Venus fly
(h) Both a&b

89. Which one of the following types of nutrition in not found in animals
(e) Holozoic
(f) Saprozoic
(g) Holophytic
(h) All

90. Animals which feed on fragments of decomposed food are called
(e) Carnivorous
(f) Filter feeders
(g) Fluid feeders
(h) Detrivores
(i) All

91. Earth worm is an example of which type of feeding
(eeeee) Carnivorous
(fffff) Filter feeders
(ggggg) Fluid feeders
(hhhhh) Detrivores

92. Human beings, Crow and Cockroach have similarity because they are
(iiiii) Carnivorous
(jjjjj) Herbivorous
(kkkkk) Omnivorous
(llllll) All

93. The most popular example of filter feeders is
(mmmmm) Sponge
(nnnnn) Hydra
(ooooo) Planaria
(ppppp) None

94. Which one of the following is mis-match
(qqqqq) Lion-------Predator
(rrrrr) Mosquito----Fluid feeder
(sssss) Earthworm------Detritiovorous
(ttttt) Cow----------carnivorous

95. Animals need to digest the food to convert the food
(uuuuu) From soluble to insoluble form
(vvvvv) Insoluble to soluble form

(wwwww) Some food does not need to be digested
(xxxxx) None

96. In organisms like Amoeba, and Paramecium, food material is digested inside cells and termed as

(yyyyy) Intracellular digestion
(zzzzz) Intercellular digestion
(aaaaaa) Extra cellular digestion
(bbbbbb) All

97. If an organism has single opening for ingestion and egestion, such type of digestive system is termed as

(cccccc) Tube like
(dddddd) Sac like
(eeeeee) Protostomes
(ffffff) Both a&c

98. Planaria and hydra have sac-like digestive system, therefore they are called

(gggggg) Protostomes
(hhhhhh) Duterostomes
(iiiiii) Both a&b
(jjjjjj) None

99. One of the following may never have tube like digestive system

(kkkkkk) Protozoa
(llllll) Metazoa
(mmmmmm) Single cellular eukaryotic organisms
(nnnnnn) Both a&b

100.Absorption is

(oooooo) Pre-digestion process
(pppppp) Post digestion process
(qqqqqq) Both a&b
(rrrrrr) None

101.In protozoans, digested food is diffused into cytoplasm and circulated through

(ssssss) Cyclosis
(tttttt) Osmosis
(uuuuuu) Diffusion
(vvvvvv) None

102.Amoeba has intra cellular digestion. It uses lysosomes, and enzymes such as all except one

(wwwwww) Proteases
(xxxxxx) Amylases
(yyyyyy) Lipases
(zzzzzz) Pepsin

103.Hydra has extra-cellular digestion and is termed as simplest heterotroph

(aaaaaaa) True
(bbbbbbb) False

104.In tentacles of hydra, cells which paralyze the prey are

(ccccccc) Conidocils
(ddddddd) Nematocysts

(eeeeeee) Nedaoblast
(fffffff) All

105.Hydra can digest all except one
(gggggg) Proteins
(hhhhhh) Fats
(iiiiiii) Carbohydrates
(jjjjjj) Starch

106.It takes a hydra to complete its extra-cellular digestion in
(kkkkkk) 1 hour
(llllll) 2 hours
(mmmmmm) 3 hours
(nnnnnn) 4 hours

107.The digestion in Hydra is
(ooooooo) Extra cellular
(pppppp) Intra cellular
(qqqqqq) Both extra and intracellular
(rrrrrr) None

108.The Planaria has both extra ad intra cellular digestions. The complete digestion of food occur in Diverticula
(ssssss) True
(tttttt) False

109.Sensory organs which Cockroach uses to find its food are called
(uuuuuu) Tentacles
(vvvvvv) Antennae
(wwwwww) Eyes
(xxxxxx) All

110.Which condition causes serious tanning of teeth that can not be cleaned by brush
(yyyyyy) Calculus
(zzzzzz) Dental caries
(aaaaaaa) Periodontal disease
(bbbbbbb) All

111.Saliva is a watery secretion that contains
(ccccccc) 95% water
(ddddddd) Some mucous
(eeeeeee) Amylase and lysozyme
(fffffff) All

112.The production of gastric juices is stimulated after secretion of stomach hormone called
(ggggggg) Rennin
(hhhhhhh) Gastrin
(iiiiiiii) Secrin
(jjjjjjj) None

113.Before digestion, fats need emulsification by bile salts
(kkkkkkk) True
(llllllll) False

114.Pancreas can not secrete juices until stimulated by duodenum hormone

(mmmmmmmm) Secretin
(nnnnnnnn) Gastrin
(oooooooo) Rennin
(pppppppp) None

115.Before absorption, fatty acids and glycerol are not converted into triglycerol

(qqqqqqqq) True
(rrrrrrrr) False

116.The absorption of digested food occur by

(ssssssss) Osmosis
(tttttttt) Active transport
(uuuuuuuu) Facilitated diffusion
(vvvvvvvv) All

117.The bile salts are stored in gall bladder, but made in

(wwwwwwww) Pancreas
(xxxxxxxx) Small intestine
(yyyyyyyy) Stomach
(zzzzzzzz) Liver

118.One reason, pepsin is secreted in inactive form is

(aaaaaaaaa) It would digest its own cells
(bbbbbbbbb) Should become active when food arrives
(ccccccccc) Both a&b
(ddddddddd) None

119.Vomiting is caused due to

(eeeeeeeee) Peristalasis
(fffffffff) Anti peristalasis
(ggggggggg) Facilitated diffusion
(hhhhhhhhh) When you look at chudary chaha