BIOLOGY

BOOKS - ARIHANT PUBLICATION

LIFE PROCESS

Question Bank

1. Photosynthesis is an important biological process for life on earth because

A. It is responsible for release of O_2

B. It is primary source of food on earth

C. It is the only process which can utilise the solar energy

D. All of the above

Answer: D

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2. Manganese is required in

A. photolysis of water during photosynthesis

B. chlorophyll synthesis

C. nucleic acid synthesis

D. plant cell wall formation

Answer: A

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3. The light harvesting complex in light reaction is

A. one molecule of chlorophyll-a

B. very few molecules of chlorophyll-a

C. hundreds of proteins of thylakoid membrane

D. Chlorophyll-a + chlorophyll-b+protein+ DNA

Answer: C

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4. The first acceptor of electrons from an excited chlorophyll molecule of photosystem-II is

A. cytochrome

B. Iron-sulphur protein

C. ferredoxin

D. plastoquinone

Answer: D

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5. Oxygenic photosynthesis is characteristic of

A. Rhodospirillum

B. Spirogyra

C. Chlamydomonas

D. All of the above

Answer: D

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6. Match the following columns.

Column I	Column II
A. Sorghum	1. Law of limiting factor
B. PEP carboxylase	2. C_3-plants
C. Blackman	3. Kranz anatomy
D. Photorespiration	4. Mesophyll cells
E. PS-II	5. P_{680}

A.

Codes

	A	B	C	D	E
(1)	3	4	1	2	5
(2)	1	2	3	4	5
(3)	5	4	3	2	1
(4)	3	5	4	2	1

B.

Codes

	A	B	C	D	E
(1)	3	4	1	2	5
(2)	1	2	3	4	5
(3)	5	4	3	2	1
(4)	3	5	4	2	1

C.

Codes

	A	B	C	D	E
(1)	3	4	1	2	5
(2)	1	2	3	4	5
(3)	5	4	3	2	1
(4)	3	5	4	2	1

D.

Codes

	A	B	C	D	E
(1)	3	4	1	2	5
(2)	1	2	3	4	5
(3)	5	4	3	2	1
(4)	3	5	4	2	1

Answer: B

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7. Within the chloroplast, there is membranous system consisting of

grana

stroma lamellae

fluid stroma

Choose the correct option.

A. I and II

B. II and III

C. I and III

D. All of these

Answer: B

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8. Which of the following statements are correct ?

Light reaction occurs in stroma.

Light reaction occurs in grana.

Dark reaction occurs in stroma.

Dark reaction occurs in grana.

Choose the correct option.

A. I and II

B. II and IV

C. III and IV

D. II and III

Answer: D

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9. Photophosphorylation is the

A. formation of ADP in the presence of light

B. formation of ATP in the presence of chemical

C. formation of ATP in the presence of light

D. formation of ATP in the presence of reducing agents

Answer: C

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10. Flow of electrons in non-cyclic photophosphorylation is

A. unidirectional (from PS-I to PS-II)

B. ambidirectional

C. bidirectional

D. unidirectional (from PS-II to PS-I)

Answer: D

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11. Match the following columns.

Column I	Column II
A. Oxygen evolving complex	1. Potassium ferric oxalate
B. Proton gradient	2. High oxygen concentration
C. Hill reaction	3. ATP synthesis
D. Photorespiration	4. Photolysis of water

A.

Codes								
	A	B	C	D		A	B	C	D
(1)	4	3	1	2	(2)	1	2	4	3
(3)	4	1	3	2	(4)	3	4	2	1

B.

Codes								
	A	B	C	D		A	B	C	D
(1)	4	3	1	2	(2)	1	2	4	3
(3)	4	1	3	2	(4)	3	4	2	1

C.

Codes								
	A	B	C	D		A	B	C	D
(1)	4	3	1	2	(2)	1	2	4	3
(3)	4	1	3	2	(4)	3	4	2	1

D.

Codes								
	A	B	C	D		A	B	C	D
(1)	4	3	1	2	(2)	1	2	4	3
(3)	4	1	3	2	(4)	3	4	2	1

Answer: A

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12. The Z-scheme of electron transport is

A. cyclic photophosphorylation

B. Non-cyclic photophosphorylation

C. Both (1) and (2)

D. where only photosystem pigment-I is involved

Answer: B

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13. Read the following statements regarding Calvin cycle.

CO_2 is assimilated into sugars.

RuBP is regenerated.

ATP and NADPH are found.

Select the correct option.

A. I and II

B. II and III

C. I and III

D. All of these

Answer: A

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14. RuBisCO stands for

A. Ribulose Bisphosphate Carboxylase Oxygenase

B. Ribulose Phosphate Carboxylase Oxygenase

C. Ribulose Phosphate Carboxylic Oxygenase

D. None of the above

Answer: A

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15. Consider the following statements

In the photorespiration pathway there is neither synthesis of sugar nor the ATP formation takes place.

Release of CO_2 with ATP utilisation takes place in photorespiration.

Choose the correct option.

A. Statement I is incorrect II is correct

B. Statement II is incorrect I is correct

C. Both I and II are incorrect

D. Both I and II correct

Answer: D

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16. The factors affecting photosynthesis are

number and size of leaves.

age and orientation of leaves.

amount of chlorophyll.

amount of CO_2 and O_2.

Select the correct option.

A. I,II and IV

B. II,IV and I

C. I,II and III

D. All of these

Answer: D

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17. Match the following columns.

Column I	Column II
A. Bundle sheath cells	1. RuBisCO
B. Mesophyll cells	2. Lack PEPase
	3. PEPcase
	4. Lack RuBisCO

A.

Codes	A	B
(1)	1, 2	3, 4
(2)	3, 4	1, 2
(3)	4, 1	2, 3
(4)	2, 3	1, 4

B.

Codes	A	B
(1)	1, 2	3, 4
(2)	3, 4	1, 2
(3)	4, 1	2, 3
(4)	2, 3	1, 4

C.

Codes	A	B
(1)	1, 2	3, 4
(2)	3, 4	1, 2
(3)	4, 1	2, 3
(4)	2, 3	1, 4

Codes

	A	B
(1)	1, 2	3, 4
(2)	3, 4	1, 2
(3)	4, 1	2, 3
(4)	2, 3	1, 4

D.

Answer: A

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18. Match the following columns.

Column I	Column II
A. C_4-plants	1. Succulents
B. Chlorophyll	2. Accessory photosynthetic pigment
C. PS-II	3. Photooxidation of H_2O
D. CAM	4. Kranz anatomy

A.

Codes	A	B	C	D
(1)	4	2	3	1
(2)	3	2	4	1
(3)	1	3	2	4
(4)	1	2	3	4

B.

Codes	A	B	C	D
(1)	4	2	3	1
(2)	3	2	4	1
(3)	1	3	2	4
(4)	1	2	3	4

C.

Codes	A	B	C	D
(1)	4	2	3	1
(2)	3	2	4	1
(3)	1	3	2	4
(4)	1	2	3	4

D.

Codes	A	B	C	D
(1)	4	2	3	1
(2)	3	2	4	1
(3)	1	3	2	4
(4)	1	2	3	4

Answer: A

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19. Photolysis of water is important event of light reaction of photosynthesis.Read the following statements and choose the correct statement(s).

Water splitting complex splits water into $OH^{-}{}^{+}H^{+}$. It is associated with photosystem-II.

Water splitting Complex and photosystem-II both are present on the outer side of the thylakoid membrane.

A. I is incorrect

B. I is correct

C. Both are incorrect

D. Both are correct

Answer: D

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20. In C_4 pathway, the CO_2-fixation in mesophyll cells is carried out by the enzyme

A. pyruvate dehydrogenase

B. pyruvate decarboxylase

C. PEP carboxylase

D. RuBisCO

Answer: C

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21. Consider the following statements.

Carboxylation of RuBP is catalysed by RuBisCO.

The first stable intermediate compound

formed is phosphoglycerate.

18 ATP molecules are synthesised during dark cycle.

NADPH+H^+ is used to reduce diphosphoglycerate

Choose the correct option.

A. II,III and IV

B. I,III and IV

C. I,II and IV

D. I,II and III

Answer: C

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22. Kranz anatomy is typical of

A. C_4-plants

B. C_3-plants

C. C_2-plants

D. CAM plants

Answer: A

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23. Very strong light has a direct inhibiting effect on photosynthesis, which is known as

A. solarisation

B. etiolation

C. chlorosis

D. defoliation

Answer: A

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24. CAM pathway is observed in

A. pineapple

B. maize

C. sunflower

D. sugarcane

Answer: A

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25. Which of the following statements regarding cycle flow of electrons during light reactions is false?

A. This process takes place in the stromal lamella

B. ATP synthesis takes place

C. NADPH+H^+ is synthesised

D. Takes place only when light of wavelength beyond 680 nm is available for excitation.

Answer: C

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26. Alimentary canal is a tube like structure containing a lumen in the centre which is called

A. enteric cavity

B. gastric cavity

C. foregut

D. ectodermis

Answer: A

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27. A series of waves of contractions meant for pushing food from pharynx to stomach is called

A. swallowing

B. churning

C. peristalsis

D. hiccups

Answer: C

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28. Which of the following is true for vitamin - C?

A. Also called as ascorbic acid

B. Also called as fumaric acid

C. Obtained from citrus fruits

D. Both (1) and (3)

Answer: D

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29. Match the following columns.

Column I	Column II
A. Achromotricia	1. Appearance of pimples
B. Acne vulgaris	2. Protein Energy Malnutrition (PEM)
C. Kwashiorkor	3. Premature greying of hairs
D. Pernicious anaemia	4. Fragile RBC
E. Scurvy	5. Bleeding of gums

A.

Codes

	A	B	C	D	E
(1)	2	1	3	4	5
(2)	4	1	2	3	5
(3)	3	1	2	4	5
(4)	4	1	3	2	5

B.

Codes

	A	B	C	D	E
(1)	2	1	3	4	5
(2)	4	1	2	3	5
(3)	3	1	2	4	5
(4)	4	1	3	2	5

C.

Codes

	A	B	C	D	E
(1)	2	1	3	4	5
(2)	4	1	2	3	5
(3)	3	1	2	4	5
(4)	4	1	3	2	5

D.

Codes

	A	B	C	D	E
(1)	2	1	3	4	5
(2)	4	1	2	3	5
(3)	3	1	2	4	5
(4)	4	1	3	2	5

Answer: C

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30. Pyloric sphincter regulates the opening of

A. stomach and duodenum

B. cardia and fundus

C. oesophagus and stomach

D. fundus and pylorus

Answer: A

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31. In which of the groups of organisms the food material is broken down outside the body and then absorbed ?

A. Mushroom,green plants,Amoeba

B. Yeast,mushroom,bread mould

C. Paramecium,Amoeba,Cuscuta

D. Cuscuta,lice,cockroach

Answer: B

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32. Peyers patches are present in

A. Duodenum

B. ileum

C. jejunum

D. caecum

Answer: B

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33. Meissner's plexus is a network of nerve cells and sympathetic nerve fibres which control secretion of

A. intestinal juices

B. gastric juice

C. pancreatic juice

D. bile

Answer: A

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34. Which of the following is not a function of bile juice?

A. It neutralises gastric acid

B. It emulsifies fats

C. It helps in digestion of protein

D. It removes several waste products

Answer: C

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35. Identify the incorrect matches from the following

Rugae- Mucosal folds in stomach which unfold and let the stomach expand to accommodate a large meal.

Haustra- Small pouches in the wall of colon which may evaginate in elderly to become diverticula.

Villi – Mucosa projection in walls of large intestine which contain blood vessels and lacteals that receive products of digestion.

A. Only I

B. Only II

C. I and II

D. Only III

Answer: D

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36. The gallbladder

A. secretes bile juice

B. is attached to anterior surface of liver on left side

C. gives rise to bile duct

D. stores and concentrates bile

Answer: D

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37. Which one of the following is the correct mathcing of the site of action on the given

substrate, the enzyme acting upon it and the end producrt?

A. Duodenum – Triglycerides $\xrightarrow{\text{“}Tryψn\text{”}}$ Monoglycerides

B. Small intestine – dipeptides $\xrightarrow{\text{“}exopeptidases\text{”}}$ Amino acids

C. Small intestine – Peptides $\xrightarrow{\text{“}peptidases\text{”}}$ Amino acids

D. Stomach – Fats $\xrightarrow{\text{“}Lipase\text{”}}$ Micelles

Answer: B

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38. Opening of bile duct before it joins the pancreatic duct is guarded by

A. sphincter of Oddi

B. sphincter of Boyden

C. ampulla of vater

D. pyloric sphincter

Answer: B

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39. Intestinal villi

provide large surface area for absorption

contain blood vessels and lacteals

distribute digestive enzymes uniformly.

stimulate peristalsis

secrete mucus

Select the correct option.

A. I and II

B. I, III and V

C. I and II

D. II, IV and V

Answer: C

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40. Which one of the following pairs of food components in human reaches the stomach totally undigested

A. Protein and starch

B. Starch and fat

C. Fat and cellulose

D. Starch and cellulose

Answer: C

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41. Choose the incorrect pair from the given sets of enzyme and their end products.

A. Rennin – Fat

B. Amylase – Maltose

C. Steapsin – Cholesterol

D. Trypsin – Peptides

Answer: A

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42. Read statements given below and choose the correct ones.

Hypoprothrombinemia is caused due to deficiency of vitamin – K.

Dermatitis is caused due to deficiency of riboflavin.

Beriberi is caused due to deficiency of vitamin - B_{10}

Pellagra is caused due to deficiency of vitamin - B_6

A. I and II

B. III and IV

C. I and IV

D. I and II

Answer: C

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43. Which one of the following enzymes carries out the initial step in the digestion of milk in humans?

A. Lipase

B. Trypsin

C. Renin

D. Papsin

Answer: C

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44. In human body, the role of bile salts in digestion is to

A. act as coenzymes during the digestion of carbohydrates

B. emulsify fats and facilitate their absorption

C. aid in the break – up of proteins into amino acids and their absorption

D. stimulate the pancreas to release its enzymes

Answer: B

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45. Which of the following statements are true regarding digestion and absorption of food in humans>

Oxyntic cells in our stomach secrete the proenzyme pepsinogen.

Fructose and amino acids are absorbed by simple diffusion.

About 30% of starch is hydrolysed by salivary amylase in our mouth.

A. I and II

B. Only II

C. Only III

D. I and III

Answer: C

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46. The hormone that stimulates the release of pancreatic juice is

A. secretin

B. glucagon

C. inhibin

D. insulin

Answer: A

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47. The pharynx is divided into three parts. Which among the following is not a part of pharynx?

A. Nasopharynx

B. Broncho Pharynx

C. Oropharynx

D. Laryngopharynx

Answer: B

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48. In adults, larynx is found at the level of ..... vertebrae.

A. $C_4 - C_7$

B. $C_3 - C_7$

C. $C_4 - C_6$

D. $C_3 - C_6$

Answer: D

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49. After deep inspiration, capacity of maximum expiration of lung is called

A. total lung capacity

B. functional residual capacity

C. vital capacity

D. inspiratory capacity

Answer: C

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50. Match the following columns.

Column I (Animal)	Column II (Respiratory Organ)
A. Earthworm	1. Moist cuticle
B. Spiders	2. Gills
C. Fishes	3. Lungs
D. Birds/reptiles	4. Book lungs

A.

Codes

	A	B	C	D
(1)	2	1	4	3
(2)	1	4	2	3
(3)	1	3	2	4
(4)	1	2	4	3

B.

Codes

	A	B	C	D
(1)	2	1	4	3
(2)	1	4	2	3
(3)	1	3	2	4
(4)	1	2	4	3

C.

Codes	A	B	C	D
(1)	2	1	4	3
(2)	1	4	2	3
(3)	1	3	2	4
(4)	1	2	4	3

D.

Codes	A	B	C	D
(1)	2	1	4	3
(2)	1	4	2	3
(3)	1	3	2	4
(4)	1	2	4	3

Answer: B

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51. Total lung capacity is

A. 1200 mL

B. 2400 mL

C. 500 mL

D. 5800 mL

Answer: D

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52. Consider the following statements regarding carbon dioxide transport.

About 7% of CO_2 is transported as dissolved in plasma, 23% as carbaminohemoglobin and

$70\,\%$ as bicarbonates.

The CO_2 dissolves in plasma forms carbonic anhydrase.

The concentration of carbonic acid remains constant due to potassium.

Choose the correct option.

A. Only II

B. Only III

C. Only I

D. All of these

Answer: C

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53. Match the following columns.

Column I		Column II	
A.	Lung fibrosis	1.	Coal workers
B.	Black lung	2.	Metallurgical occupation
C.	CBD	3.	Flour mill workers
D.	Brown lung	4.	Poor ventilation to textile workers

A.

Codes

	A	B	C	D
(1)	1	3	4	2
(2)	1	3	2	4
(3)	3	1	4	2
(4)	3	1	2	4

B.

Codes	A	B	C	D
(1)	1	3	4	2
(2)	1	3	2	4
(3)	3	1	4	2
(4)	3	1	2	4

C.

Codes	A	B	C	D
(1)	1	3	4	2
(2)	1	3	2	4
(3)	3	1	4	2
(4)	3	1	2	4

D.

Codes	A	B	C	D
(1)	1	3	4	2
(2)	1	3	2	4
(3)	3	1	4	2
(4)	3	1	2	4

Answer: D

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54. Mammalian lungs have an enormous number of minute alveoli (air sacs). This is to allow

A. more space for Increasing the volume of inspired air

B. more surface area for diffusion of gases

C. more spongy texture for keeping lungs in proper shape

D. more nerve supply to keep the lungs working

Answer: A

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55. Match the following column.

Column I	Column II
A. Larynx	1. Lid of trachea
B. Trachea	2. Air sacs
C. Alveoli	3. Voice box
D. Epiglottis	4. Windpipe
	5. Leaf like cartilage

A. Codes

	A	B	C	D
(1)	3	5	2	4
(3)	3	4	2	5

	A	B	C	D
(2)	3	4	1	2
(4)	3	4	2	1

B. Codes

	A	B	C	D
(1)	3	5	2	4
(3)	3	4	2	5

	A	B	C	D
(2)	3	4	1	2
(4)	3	4	2	1

C.

Codes	A	B	C	D
(1)	3	5	2	4
(3)	3	4	2	5

	A	B	C	D
(2)	3	4	1	2
(4)	3	4	2	1

D.

Codes	A	B	C	D
(1)	3	5	2	4
(3)	3	4	2	5

	A	B	C	D
(2)	3	4	1	2
(4)	3	4	2	1

Answer: C

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56. Approximately 70% of carbon dioxide absorbed by the blood will be transported to the lungs

A. as bicarbonate ions

B. in the form of dissolved gas molecules

C. by binding to RBC

D. as carbaminohemoglobin

Answer: A

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57. The volume of a that can be breathed in by maximum forced inspiration over and above the normal inspiration is called

A. expiratory reserve volume

B. inspiratory reserve volume

C. vital capacity

D. inspiratory capacity

Answer: B

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58. Oxygen dissociation curve is

A. sigmoid

B. parabolic

C. hyperbolic

D. straight line

Answer: A

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59. Which one of the following is the correct statement for respiration in humans ?

A. Cigarette smoking may lead to inflammation of bronchi

B. Neural signals from pneumotaxic centre in pons region of brain can increase the duration of inspiration

C. Workers in grinding and stone breaking industries may,from lung fibrosis

D. About $90\,\%$ of carbon dioxide (CO_2) is carried by haemoglobin as carbaminohemoglobin

Answer: C

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60. match the compounds given I column I with the number of carbon atoms present in them which are listed under column II. Choose the answer which given the correct combination of alphabets of the twoo columns

Column-I		Column-II	
(A)	Oxaloacetate	(p)	6-C compound
(B)	Phosphoglycrealdehyde	(q)	5-C compound
(C)	Isocitrate	(r)	4-C compound
(D)	α -ketoglutarate	(s)	3-C compound
		(t)	2-C compound

A.

Codes

	A	B	C	D
(1)	2	1	4	3
(3)	1	3	2	4

	A	B	C	D
(2)	3	4	1	2
(4)	3	1	2	4

B.

Codes

	A	B	C	D
(1)	2	1	4	3
(3)	1	3	2	4

	A	B	C	D
(2)	3	4	1	2
(4)	3	1	2	4

C.

Codes

	A	B	C	D
(1)	2	1	4	3
(3)	1	3	2	4

	A	B	C	D
(2)	3	4	1	2
(4)	3	1	2	4

D.

Codes

	A	B	C	D
(1)	2	1	4	3
(3)	1	3	2	4

	A	B	C	D
(2)	3	4	1	2
(4)	3	1	2	4

Answer: B

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61. Match of the following columns.

Column I	Column II
A. F_1-particle	1. Forms channel through which proton cross the inner membrane.
B. F_0-particle	2. Contains F_1 and F_0 particles and protein stalk.
C. ATP synthase	3. Contains site for synthesis of ATP from ADP and Pi.
D. Chemiosmotic hypothesis	4. Peter Mitchell

A. Codes

A	B	C	D
(1) 2	4	1	3
(3) 3	1	2	4

A	B	C	D
(2) 1	3	2	4
(4) 4	3	1	2

B. Codes

A	B	C	D
(1) 2	4	1	3
(3) 3	1	2	4

A	B	C	D
(2) 1	3	2	4
(4) 4	3	1	2

C. Codes

A	B	C	D
(1) 2	4	1	3
(3) 3	1	2	4

A	B	C	D
(2) 1	3	2	4
(4) 4	3	1	2

D.

Codes

	A	B	C	D
(1)	2	4	1	3
(3)	3	1	2	4

	A	B	C	D
(2)	1	3	2	4
(4)	4	3	1	2

Answer: C

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62. Which of the metabolites is common to respiration mediated breakdown of fats, carbohydrates and proteins ?

A. Glucose- 6 – phosphate

B. Fructose 1, 6 – bisphosphate

C. Pyruvic acid

D. Acetyl Co – A

Answer: D

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63. Which of the following is a rapid type of water absorption?

A. Active absorption

B. Passive absorption

C. Continuous absorption

D. Pulsating absorption

Answer: A

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64. Osmosis is

A. the movement of solute from the region of higher concentration to lower

concentration across a semipermeable membrane

B. the movement of solvent molecules from the region of its lower potential to the region of its higher potential through a semipermeable membrane

C. the movement of solvent from a region of higher concentration to its lower concentration through semipermeable membrane

D. None of the above

Answer: C

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65. The net direction and rate of osmosis depends on

A. diffusion pressure and pressure gradient

B. pressure gradient and concentration gradient

C. concentration gradient and diffusion pressure gradient

D. None of the above

Answer: B

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66. The inner lining of stomach is protected by one of the following from hydrochloric acid. Choose the correct one

A. Pepsin

B. Mucus

C. Salivary amylase

D. Bile

Answer: B

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67. No rupture and friction occur in water column of vessels and tracheids during ascent of sap. It is due to

A. they are lignified thick walls

B. they have weak gravitational pull

C. cohesion and adhesion

D. transpiration pull

Answer: C

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68. A RBC and a plant cell (with thick cell wall) are placed in distilled water. The solute

concentration is the same in both the cells. What changes would be observed in them

A. Both plant cell and RBC would not undergo any change

B. The RBC would increase in size and burst, while the plant cell would remain about the same size

C. The plant cell would increase in size and burst, while the RBC would remain about the same size

D. None of the above

Answer: B

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69. A cell when dipped in 0.5 M sucrose solution has no effect but when the same cell will be dipped in 0.5 M NaCl solution the cell will

A. increase in size

B. decrease in size

C. will be turgid

D. will get deplasmolysis

Answer: B

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70. Which of the following causes movement in sensitive plants like Mimosa pudica.

A. Turgor pressure

B. Imbibition

C. Plasmolysis

D. Osmosis

Answer: A

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71. Suction pressure is the other name of

A. diffusion pressure deficit

B. osmotic pressure

C. wall pressure

D. turgor pressure

Answer: A

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72. Match of the following columns.

Column I	Column II
A. Isotonic	1. Cells flaccid
B. Hypotonic	2. No net flow of water
C. Hypertonic	3. Cells turgid
D. Plasmolysis	4. Water moves into the cell
E. Deplasmolysis	5. Water moves out of the cell

A.

Codes

	A	B	C	D	E
(1)	1	3	4	2	5
(2)	2	4	5	1	3
(3)	2	4	1	3	5
(4)	3	2	5	1	4

B.

Codes

	A	B	C	D	E
(1)	1	3	4	2	5
(2)	2	4	5	1	3
(3)	2	4	1	3	5
(4)	3	2	5	1	4

C.

Codes	A	B	C	D	E
(1)	1	3	4	2	5
(2)	2	4	5	1	3
(3)	2	4	1	3	5
(4)	3	2	5	1	4

D.

Codes	A	B	C	D	E
(1)	1	3	4	2	5
(2)	2	4	5	1	3
(3)	2	4	1	3	5
(4)	3	2	5	1	4

Answer: B

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73. Which of the following statements are incorrect regarding imbibition?

Imbibition is the phenomenon of adsorption

of water or any other liquid without forming solution.

The liquid which is imbibed is called imbibant.

There is a decreases in volume during imbibition.

Water is absorbed by germinating seed through imbibition.

A. I and II

B. II and III

C. I and III

D. I,III and IV

Answer: C

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74. Passive absorption of water by the root system of the result of

A. forces created in the cells of root

B. increased respiratory activity in root cells

C. tension on the cell sap due to transpiration

D. osmotic force in the shoot system

Answer: C

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75. The translocation of organic solutes in sleve tube membres is supportted by

A. root pressure and transpiration pull

B. P-proteins

C. Mass-flow involving a carrier and ATP

D. cytoplasmic streaming

Answer: C

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76. Choose the correct statement(s) regarding guard cells control.

Intensity of light entering

Photosynthesis

Closing and opening of stomata

Change in green colour

A. I and II

B. Only III

C. I and IV

D. I,II and III

Answer: B

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77. Phloem sap is mainly made of

A. water and sucrose

B. water and minerals

C. oligosaccharides and hormones

D. None of the above

Answer: A

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78. In open circulatory system blood pumped by heart passes in which of the following?

A. Sinuses

B. Lymph nodes

C. Artery

D. Vein

Answer: A

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79. Circulatory system in birds is

A. open type with haemoglobin in plasma

B. closed type with haemoglobin in RBCs

C. open type with haemoglobin in RBCs

D. closed type with haemoglobin in plasma

Answer: C

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80. Human heart is

A. Two-chambered

B. Three-chambered

C. Four-chambered

D. partial four-chambered

Answer: C

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81. Oxygenated blood is carried to the heart by which of the following?

A. Pulmonary vein

B. Pulmonary artery

C. Renal vein

D. Renal artery

Answer: A

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82. Match the following columns.

Column I	Column II
A. Artery	1. Connect arterioles to vessels
B. Vein	2. Distributes blood from heart to different part of body
C. Capillary	3. Part of venous circulation present between capillaries
D. Portal system	4. Collects blood from different part of the body and pour it into heart

A.

Codes

	A	B	C	D
(1)	2	3	1	4
(2)	2	4	1	3
(3)	4	1	3	2
(4)	3	2	4	1

B.

Codes

	A	B	C	D
(1)	2	3	1	4
(2)	2	4	1	3
(3)	4	1	3	2
(4)	3	2	4	1

C.

Codes	A	B	C	D
(1)	2	3	1	4
(2)	2	4	1	3
(3)	4	1	3	2
(4)	3	2	4	1

D.

Codes	A	B	C	D
(1)	2	3	1	4
(2)	2	4	1	3
(3)	4	1	3	2
(4)	3	2	4	1

Answer: B

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83. complete double circulation in the characteristic features of all

A. Human

B. Fishes

C. Arthropods

D. Annelids

Answer: A

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84. Select the correct statement(s) about lymphatic system from the following.

Lymphatic system returns the excess tissue

fluid back to blood.

Lymph vessels contain no valves.

The lymph moves with pumping of heart.

Lymph also has double circulation like heart.

A. Only I

B. I and II

C. II and III

D. All of these

Answer: A

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85. Which one of the following circulation is not a type of systemic circulation?

A. Coronary circulation

B. Hepatic portal circulation

C. Pulmonary circulation

D. Renal circulation

Answer: A

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86. Match the following columns.

	Column I	Column II
A.	Atrial systole	1. 0.7 sec
B.	Atrial diastole	2. 0.5 sec
C.	Ventricular systole	3. 0.1 sec
D.	Ventricular diastole	4. 0.3 sec

A.

Codes								
	A	B	C	D		A	B	C	D
(1)	3	1	4	2	(2)	2	1	4	3
(3)	4	2	3	1	(4)	1	4	3	2

B.

Codes								
	A	B	C	D		A	B	C	D
(1)	3	1	4	2	(2)	2	1	4	3
(3)	4	2	3	1	(4)	1	4	3	2

C.

Codes								
	A	B	C	D		A	B	C	D
(1)	3	1	4	2	(2)	2	1	4	3
(3)	4	2	3	1	(4)	1	4	3	2

D.

Codes								
	A	B	C	D		A	B	C	D
(1)	3	1	4	2	(2)	2	1	4	3
(3)	4	2	3	1	(4)	1	4	3	2

Answer: A

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87. First heart sound occurs at

A. opening of semilunar valve

B. closing of semilunar value

C. onset of auricular systole

D. sudden closure of AV valves

Answer: C

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88. Arteries are best defined as the vessels which

A. carry blood from one visceral organ to another visceral organ

B. supply oxygenated blood to the different organs

C. carry blood away from the heart to different organs

D. break up into capillaries which reunite to from a vein

Answer: B

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89. Which part of alimentry canal receives bile from the liver?

A. Stomach

B. Small intestine

C. Large intestine

D. Oesophagus

Answer: B

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90. If due to some injury the chordae tendineae of the tricuspid valve of the human heart is partially non-functional, what will be the immediate effect ?

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91. Transpiration is manifestation of

A. root pressure

B. turgor pressure

C. wall pressure

D. suction pressure

Answer: A

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92. Transpiration facilitates

A. electrolyte balance

B. absorption of water by roots

C. excretion of minerals

D.

Answer: B

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93. How much of absorbed water is lost during transpiration in a plant?

A. $90\ \%$

B. $98 - 99\ \%$

C. $99.9\ \%$

D. $90 - 95\ \%$

Answer: B

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94. Which is not the function of transpiration?

A. Cool leaf surface

B. Maintain shape and structure of plant

C. Help in translocation of sugars from source to sink

D. Provide water for photosynthesis

Answer: D

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95. Transpiration is important for plants as

A. It creates transpiration pull for transport

B. supplies water for photosynthesis

C. maintain shape of plant

D. All of the above

Answer: D

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96. Attraction of water molecules to polar surfaces is known as

A. cohesion

B. adhesion

C. surface tension

D. tensile strength

Answer: B

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97. In dry arid condition, the leaves of some monocots,like grasses curls inwards to reduce transpiration. This is due to the presence of

A. parallel venation

B. bulliform cells

C. large xylem cavities

D. thick cuticles

Answer: B

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98. Match of the following columns.

	Column I		Column II
A.	Bulliform cells	1.	Stomata
B.	Guard cells	2.	Aerating pore
C.	Lenticel	3.	Accessory cells
D.	Subsidiary cells	4.	Isobilateral leaf

A.

Codes

	A	B	C	D
(1)	1	2	3	4
(2)	1	4	2	3
(3)	4	2	3	1
(4)	4	1	2	3

B.

Codes

	A	B	C	D
(1)	1	2	3	4
(2)	1	4	2	3
(3)	4	2	3	1
(4)	4	1	2	3

C.

Codes	A	B	C	D
(1)	1	2	3	4
(2)	1	4	2	3
(3)	4	2	3	1
(4)	4	1	2	3

D.

Codes	A	B	C	D
(1)	1	2	3	4
(2)	1	4	2	3
(3)	4	2	3	1
(4)	4	1	2	3

Answer: D

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99. A twig kept in water having some salt remains fresh for longer period due to

A. exosmosis

B. absorption of more water

C. electrolyte balance

D. decrease in transpiration rate

Answer: A

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100. Plants growing on hills show

A. higher rates of transpiration

B. lower rates of transpiration

C. same rate of transpiration

D. lower rates of transpiration provided by the sunken stomata

Answer: B

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101. Stomatal opening is affected by

A. nitrogen concentration,carbon dioxide concentration and light

B. carbon dioxide concentration, temperature and light

C. nitrogen dioxide concentration, nitrogen concentration and temperature

D. carbon dioxide concentration,nitrogen concentration and temperature

Answer: B

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102. Match the following columns.

Column I	Column II
A. Manometer	1. Soil water tension
B. Potometer	2. Rate of transpiration
C. Atmometer	3. evaporation pull
D. Tensiometer	4. Stomatal size
E. Porometer	5. Atmospheric pressure

A.

Codes

	A	B	C	D	E
(1)	5	2	3	1	4
(2)	2	3	4	1	5
(3)	1	5	2	3	4
(4)	3	2	1	5	4

B.

Codes	A	B	C	D	E
(1)	5	2	3	1	4
(2)	2	3	4	1	5
(3)	1	5	2	3	4
(4)	3	2	1	5	4

C.

Codes	A	B	C	D	E
(1)	5	2	3	1	4
(2)	2	3	4	1	5
(3)	1	5	2	3	4
(4)	3	2	1	5	4

D.

Codes	A	B	C	D	E
(1)	5	2	3	1	4
(2)	2	3	4	1	5
(3)	1	5	2	3	4
(4)	3	2	1	5	4

Answer: A

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103. Loss or excretion of water in the form of liquid droplets from the margins and tips of leaves is called

A. guttation

B. root pressure

C. transpiration

D. transpiration pull

Answer: A

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104. Ascent of sap is best explained by

A. Bulk flow system

B. transpiration pull

C. transpiration

D. Root pressure theory

Answer: A

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105. Choose the correct statements regarding guttation and pick the correct option from the codes given below

It occurs through specialised pore called hydathode.

Hydathodes can be located margin and tips of leaves.

It occurs in plants growing under condition of low soil moisture and high humidity.

It occurs in herbaceous plants when root pressure is low and transpiration is high.

A. I and II

B. III and IV

C. I,II and IV

D. All of these

Answer: A

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106. Which one of the following is not related to guttation

A. Guttation is not universal occurrence

B. Water is given out during day time

C. Excreted water is impure

D. Water is excreted in liquid phase

Answer: B

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107. Guttation takes place through

A. sunken stomata

B. cuticle

C. hydathode

D. bark

Answer: C

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108. Match of the following columns.

Column I	Column II
A. Porometer	1. Opening and closing of stomata
B. Ganong's potometer	2. Rate of growth
C. Pfeffer's auxanometer	3. Detection of transpiration
D. Cobalt chloride paper	4. Rate of transpiration

A.

Codes

	A	B	C	D
(1)	4	2	1	3
(2)	2	3	4	1
(3)	3	1	2	4
(4)	1	4	2	3

B.

Codes

	A	B	C	D
(1)	4	2	1	3
(2)	2	3	4	1
(3)	3	1	2	4
(4)	1	4	2	3

C.

Codes	A	B	C	D
(1)	4	2	1	3
(2)	2	3	4	1
(3)	3	1	2	4
(4)	1	4	2	3

D.

Codes	A	B	C	D
(1)	4	2	1	3
(2)	2	3	4	1
(3)	3	1	2	4
(4)	1	4	2	3

Answer: D

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109. Osmotic expansion of a cell kept in water is chiefly regulated by

A. Vacuoles

B. Plastids

C. Ribosomes

D. Mitochondria

Answer: A

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110. Bony fishes are

A. ammonotelic organisms

B. ureotelic organisms

C. uricotelic organisms

D. Both (1) and (2)

Answer: A

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111. Uric acid is the excretory waste of

A. Ascaris

B. snalls

C. shark

D. frogs

Answer: B

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112. The blood vessels enter into the kidney through a longitudinal fissure called

A. hilum

B. major calyx

C. minor calyx

D. None of the above

Answer: A

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113. The structural and functional unit of kidney is called

A. uriniferous tubule

B. renal pyramid

C. renal tubule

D. renal medulla

Answer: A

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114. During respiration exchange of gases take place in

A. trachea and larynx

B. alveoli of lungs

C. alveoli and throat

D. throat and larynx

Answer: B

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115. Which of the following is not a part of malpighian body?

A. Bowman's capsule

B. Glomerulus

C. Loop of Henle

D. Afferent arteriole

Answer: C

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116. Select the incorrect statement regarding mechanism of urine formation in man.

A. The glomerular filtration rate is about 125 mL/min

B. The ultrafiltration is opposed by the colloidal osmotic pressure of plasma

C. Tubular secretion takes place in the PCT

D. The countercurrent system contributes in diluting the urine

Answer: C

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117. The urine is

A. hypotonic to blood and isotonic in medullary fluid

B. hypertonic to blood and isotonic to medullary fluid

C. isotonic to blood and hypotonic to medullary fluid

D. isotonic to blood and hypotonic to medullary fluid

Answer: B

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118. If Henle's loop were absent from mammalian nephron which of the following is to be expected

A. The urine will be more concentrated

B. The urine will be more dilute

C. There will be no urine formation

D. There will be hardly any change in the quality and quality and quantity of urine formed

Answer: B

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119. Vasopressin released from the neurohypophysis is mainly responsible for

A. facultative reabsorption of water through Henle's loop

B. obligatory reabsorption of water through Bowman's capsule

C. Facultative reabsorption to water through DCT

D. obligatory reabsorption of water through PCT

Answer: C

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120. Oxygen liberated during photosynthesis comes from

A. water

B. chlorophyll

C. carbon dioxide

D. glucose

Answer: A

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121. Glucose ,Na^+ and amino acid are actively transported substances, because

A. their movement occurs according to concentration gradient

B. their movement occurs against concentration gradient

C. ATP is not needed for transportation

D. They are transported by simple diffusion

Answer: B

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122. Which one of the following statement is correct respect to kidney function regulation

A. Exposure to cold temperature stimulates ADH release

B. An increase in glomerular blood flow stimulates formation of angiotensin-II

C. During summer when body loses lot of water by evaporation, the release of ADH is suppressed

D. When someone drink lot of water ADH release is stopped

Answer: D