MDCAT MCQS WITH EXPLANATION.

CHAPTER BIO-ENERGETICS.

BIOLOGY.

MCQ's



d) Temperature

Q4. The number of carbon atoms present in ribulose biphosphate is.

- (a) 6 (b) 5 (c) 4 (d) 3 PERIO Q5. Cyclic photophosphorylation releases. a) ATP and NADPH₂ b) ATP, 0_2 and NADPH₂ c) ATP d) NADPH₂ and 0_2 YODAY COUNT Q6. In the dark reaction of photosynthesis. a) PGAL is formed b) CO_2 is fixed c) ATP is consumed. d) All of these Q 7. Carbon dioxide is more abundant in: a) Stroma
- b) Thylakoid

c) Both of these

d) None of these

Q8. The total photosynthesis including the food consumed by the producer is ...

- a) Productivity
- b) Primary productivity
- c) Gross primary productivity
- d) Net primary productivity
- Q9. A photo system contains.
- (a) ADP + Chlorophyll "b"
- (b) Photon
- (c) Light + Chlorophyll "a"
- (d) Pigment or light capturing Antenna + reaction center
- Q 10. The light independent reactions occur in.
- a) Grana
- b) Stroma
- c) Cytoplasm
- d) Outer layer of chlorophyll

Q11. During photosynthesis green plants capture light energy and converts it into.

- a) Heat energy
- b) Chemical energy
- c) Mechanical energy
- d) All of these
- Q12. Which pigment do not belong to carotenoid?

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- a) Green
- (b) Yellow
- (c) Red
- (d) Orange
- Q13. By the process of photosynthesis carbon dioxide is converted into.

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- a) Monosaccharide
- b) Disaccharide
- c) Oligosaccharide
- d) Polysaccharide

Q14. Which one is a correct statement?

- a) Short wavelengths are less energetic
- b) Long wavelengths are more energetic
- c) Short wavelengths are more energetic
- d) All are correct

Q15. The light dependent reactions occur in.

- a) Grana
- b) Stroma
- c) Cytoplasm
- d) Outer layer of chlorophyll

Q16. Number of phosphates in one ATP are.



Q18. Chlorophyll absorbs wavelength of.

- a) 390-430 nm
- b) 390-760 nm
- c) 670-7 00 nm

d) Both a and c

Q19. The wavelength absorbed by carotenoid ranges in between.

- a) 400-500 nm
- b) 430-470 nm
- c) 600–700 nm
- d) All of these

Q20. Antenna complex contains.

- a) Chlorophyll A
- b) Chlorophyll B
- c) Both of these
- d) None of these

Q21. In non-cyclic electron transport chain of light reaction, the first electron

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acceptor is

- a) PQ
- b) cyt "b"
- c)cyt"f
- d) PC
- Q 22. Which one is not an electron acceptor of photosystem II.
- a) PQ



c) PC

d) Fd

- Q 23. The product of light reaction is. a) ATP b) NADPH TO PERIO PATHO c) Both a and b d) None of these Q 24. Number of ATPs produced from one NADH2 is. a) 1 FF TODAY COUNT b)2
- c) 3
- d) 4
- Q 25. Number of ATPs produced from FADH is:
- a) 1
- b) 2
- c) 3
- d)4
- Q 26. The curved ~ symbol in ATP indicate P-P-P.

- a) Low Energy bond
- b) High Energy bond
- c) Unstable bond
- d) Both b and c

Q 27. During photosynthesis oxygen come out from water was confirmed using

RATHO

- O18 isotopes of oxygen by.
- a) C.B Von Neil
- b) Robin Hill
- c) R. Scarisbrick
- d) Samuel Rubin

Q 28. Thylakoids membranes containing chlorophyll are involved in the synthesis

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- of ATP by the process of. TE TODAY COUR
- a) Photosynthesis
- b) Chemosynthesis
- c) Chemiosmosis
- d) Osmosis

Q29. What does not occur in the light reaction?

- a) Photolysis
- b) Photophosphorylation

c) Oxidation of water

d) Reduction of CO2

Q30. How many ATP molecules are synthesized and released as a result of substance level phosphorylation.

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- a) 2 ATP
- b) 4 ATP
- c) 6 ATP
- d) 36 ATP
- PERIO Q31. Which of the following is not source of CO2?

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- a) The burning of fuel
- b) Photosynthesis
- c) The decomposition of animal matter
- d) Respiration

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- a) A maximum of 32
- b) A maximum of 36
- c) A maximum of 38
- d) A maximum of 4 ATP

EXPLANATION OF MCQS

MCQ's	Correct	EXPLANATION
No	Option	
1.	В	Green light is least or unimportant for photosynthesis.
2.	D	60% of the world's photosynthésis is carried out by algae.
3.	В	The rate of photosynthesis is independent of duration of light.
4.	В	Ribulose consists of 5 – carbon.
5.	С	Cyclic photophosphorylation release ATP.
6.	D	In the dark reaction PGAL is formed, CO2 is fixed and ATP is
		consumed.
7.	А	CO2 is abundant in stroma.
8.	С	The total photosynthesis including the food consumed by the
		producer is called gross primary productivity.
9.	D	Photosystem complex and reaction center.consists of antenna
10.	В	Light reaction occurs in grana while light independent reaction
		occurs in stroma.
11.	В	During photosynthesis green plants capture light energy and
		converts into glucose (chemical energy).
12.	А	Green pigment do not belongs to carotenoid
13.	А	In photosynthesis CO2 is converted into glucose
		(monosaccharide).
14.	С	Short wavelength are more energetic.
15.	А	Light dependent reactions occur in grana.
16.	D	Number of phosphates in one ATP is 3.
17.	С	Visible light ranges in between 390- 760 nm.
18.	D	Chlorophyll absorb wavelength of 390-460 nm and 630-700
		nm.
19.	В	Carotenoid absorb 430-470 nm.

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20.	В	Antenna complex consists of chlorophyll B and carotenoid.	
21.	А	In non-cyclic electron transport chain of light reaction, the	
		first electron acceptor is PQ.	
22.	D	FRS is the electron acceptor of PS-I.	
23.	С	The products of light reaction in ATP and NADPH2 and O2.	
24.	С	Number of ATPs produced from one NADH2 is 3.	
25.	В	Number of ATPs produced from FADH2 is 2.	
26.	D	The curved symbol in ATP indicate that it is high energy bond	
		and is unstable.	
27.	В	During photosynthesis O2 come out from H2O not from CO2	
		was confirmed by Robin Hill.	
28.	С	Thylakoids membranes containing chlorophyll are involved in	
		the synthesis of ATP by the process of chemo-osmosis	
29.	D	Reduction of CO2 does not occur in light reaction.	
30.	С	6ATP are produced in substrate level phosphorylation (gross)	
		during glycolysis and Krebs cycle.	
31.	В	Photosynthesis is not the source of CO_2 because it consumes it.	
32.	А	32 ATPs are produced in cellular respiration is a result of	
		oxidative phosphorylation is indirectn pathway.	
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