

CELLULAR RESPIRATION

1. The universal hydrogen acceptor is
(a) NAD (b) ATP
(c) COA (d) FMN
2. During transport of electron from cytochrome a to a₃ through their iron is facilitated by
(a) Cu⁺⁺ (b) Mn⁺⁺
(c) Ca⁺⁺ (d) Zn⁺⁺
3. The second ATP molecule in ETC is generated when the electron is transported from
(a) cytochrome C₁ to b
(b) cyt C₁ to C
(c) Cyt to C₁
(d) Cytc to a
4. Fermentation was first described by
(a) Gaylussac (b) Pasteur
(c) Buchner (d) Embden
5. Activator needed by the enzyme aconitase in Kerb's cycle is
(a) Mn⁺⁺ (b) Fe⁺⁺
(c) Mg⁺⁺ (d) TPP
6. In Kerb's cycle the KGA is subjected to
(a) dehydrogenation
(b) oxidative phosphorylation
(c) decarboxylation
(d) oxidative decarboxylation
7. Under high O₂ concentration there is inhibition of
(a) glycolysis (b) kerb-cycle
(c) both (d) ETC
8. Seed shows minimum respiration rate for they have minimum amount of water called
(a) hygroscopic water (b) bound water
(c) combined water (d) chemical water
9. The most optimum temperature for respiration is
(a) 20°C (b) 25°C
(c) 30°C (d) 35°C
10. The concentration of O₂ at which anaerobic respiration stops and aerobic respiration begins is called as
(a) compensation point
(b) extinction point
(c) O₂ compensation point
(d) light compensation point
11. The number of ATP molecules generated in one PPP is
(a) 24 (b) 30
(c) 36 (d) 35
12. The PPP operates only when
(a) NAD is present (b) NADP is present
(c) FAD is present (d) none
13. The efficiency of aerobic respiration is
(a) 35% (b) 40 - 42%
(c) 45% (d) 28%
14. The proton channel for oxysome is
(a) F₁ (b) F₀
(c) F₅ (d) F₆
15. PPP operates
(a) independent of EMP
(b) along with EMP
(c) along with kreb
(d) along with kerb and EMP
16. Yong leaves show
(a) high rate of respiration and photorespiration
(b) high rate of respiration and low photorespiration
(c) low respiration and photorespiration
(d) low respiration and high photorespiration

17. The efficiency of anaerobic oxidation of one hexone molecule is
(a) 35% (b) 40 – 42%
(c) 34% (d) none
18. The formation of H₂O molecule in Kerb's cycle is catalysed by the enzyme
(a) cytochrome oxidase
(b) cytochrome dehydrogenase
(c) both
(d) none
19. The number of ATP molecules generated form succinate in one Kerb's cycle is
(a) 1 (b) 2
(c) 3 (d) none
20. The cytochromes of respiratory chain in decreasing redox potential are
(a) a₃acc₁b (b) aa₃bcc₁
(c) bc₁caa₃ (d) c₁cbaa₃
21. During ETC the hydrogen donated by succinate is accepted by
(a) NAD (b) NADP
(c) FAD (d) FMN
22. In ETC the 1st ATP molecule is generated when hydrogen passes from
(a) FMN to NAD (b) FMN to COQ
(c) NAD to COQ (d) NAD to FMN
23. The PGAL and DHAP formed in glycolysis remain in enzymatic equilibrium in the ratio
(a) 40 – 60% (b) 20 – 80%
(c) 9 – 92% (d) 3 – 97%
24. The correct sequence of hydrogen donor of Kerb's cycle is
(a) Pyruvate – isocitrate – α KGA – M.A
(b) isocitrate – α KGA – Succinate – M.A. – Pyruvate
(c) Isocitrate – OSA → α KGA – SCOA
(d) all
25. The no of H₂O molecule evolved in one Kreb's cycle through ETC is
(a) 4 (b) 3
(c) 1 (d) 2
26. No of CO₂ molecule formed in one kreb's cycle
(a) 4 (b) 3
(c) 2 (d) 1
27. The No of NADH₂ formed in one Kreb's cycle is
(a) 4 (b) 3
(c) 2 (d) 1
28. Substrate phosphorylation occurs during
(a) succinyl coA – succinic acid
(b) S. A to F.A
(c) M.A to OA. A
(d) F. A to M.A
29. The 1st product of Kreb's cycle is
(a) 4 – C – group
(b) 3 – C comp
(c) 5 – C comp
(d) 6 – C comp
30. The conversion of P. A to acetyl CoA is a type of
(a) reductive deamination
(b) oxidative dehydrogenation
(c) oxidative decarboxylation
(d) none
31. The efficiency of biological oxidation of pyruvic acid to lattice acid is
(a) 30 (b) 32
(c) 40 (d) 42
32. The enzymes activator needed the enzyme enolase
(a) Mn⁺⁺ (b) Zn⁺⁺
(c) Fe⁺⁺ (d) Mg⁺⁺

33. The term protoplasmic respiration is applied for the respiration of
 (a) Protein
 (b) protein and lipid
 (c) lipid and carbohydrate
 (d) all
34. Dry seed can endure high temperature than germinating seed because
 (a) the seedlings are tender
 (b) dry seeds have more reserve food
 (c) hydration makes enzyme more sensitive to temperature
 (d) none
35. The enzymes are effective in very small quantities the ratio of enzyme to substrate molecules
 (a) 1 : 1000 (b) 1 : 10000
 (c) 1 : 100000 (d) 1 : 500000
36. During snowfall the trees
 (a) do not respire
 (b) do not photosynthesis
 (c) show min life function
 (d) show max respiration
37. Complete oxidation of one gram of glucose yields energy in calories
 (a) 6860000
 (b) 686000
 (c) 68600
 (d) 686
38. Oxidative enzymes for kreb's cycle are found in
 (a) Matrix of mitochondria
 (b) cytoplasm
 (c) outer membrane of mitochondria
 (d) inner membrane of mitochondria
39. In oxidation of one molecule of glucose 36 ATP are liberated as follow
 (a) 2ATP outside mitochondria 34 inside
 (b) all 36 inside mitochondria
 (c) 2 ATP during glycolysis 34 in kreb cycle
 (d) 2 ATP during glycolysis 34 in ETC
40. In the process of respiration in plants 180 g of sugar plus 192 g of O₂ produce
 (a) 132 g of CO₂ 54 g H₂O 337 cal energy
 (b) 264 g of CO₂ 108 g H₂O 674 cal energy
 (c) 528 g CO₂ 216 g H₂O 134 cal energy
 (d) none
41. No of carbon atom in acetyl CoA is
 (a) 2 (b) 3
 (c) 4 (d) 5
42. The other name of glycolysis is
 (a) HMP (b) EMP
 (c) TCA (d) PPP
43. Fermentation of sugar occur by
 (a) Saccharomyces (b) Rhizopus
 (c) Mucor (d) None
44. In Opuntia RQ will be
 (a) 1 (b) less than 1
 (c) more than 1 (d) zero
45. RQ of C₃₉ H₇₄ O₆ is
 (a) 0.715 (b) 1.000
 (c) 1.430 (d) 2.145
46. The apparatus used to measure respiration is
 (a) photometer
 (b) porometer
 (c) respirometer
 (d) all
47. The group of plants similar to animals in their requirements of O₂ for cellular respiration both in the day and night are
 (a) Lichen (b) Viruses
 (c) Fungi (d) BGA

48. If fermentation is allowed to proceed in a closed vessel
- (a) vacuum will result
 - (b) no change
 - (c) gas pressure will develop due to CO_2
 - (d) gas pressure due to excessive CO_2
49. Exchange of gases between air and the internal tissue of older corky stems takes place through
- (a) sieve tube
 - (b) pits
 - (c) stomata
 - (d) lenticell
50. Which of the following represent correctly function of mitochondria

