

High Yield Hints - CELL BIOLOGY

1. Glycocalyx layer- The cell layer which is not absolutely essential for bacterial survival but can become immunogenic.
2. Porins – *Proteins present in the cell wall of E.coli that functions as channels for the entry and exit of hydrophilic low molecular weight substances.*
3. Components of bacterial cell wall – *Pentacyclic sterols or Hopanoids, Glycoproteins, Glycophorins.*
4. Functions of mesosomes
 1. *cell wall formation and secretion.*
 2. *chromosome replication and distribution.*
 3. *increase plasma membrane surface area and enzyme content.*
5. Plant Karyotyping uses banding technique called – *Q,C,R bands.*
6. The purple Cabbage leaves do not lose their colour in cold water but do so in the boiling water because – *Plasmalemma killed in boiling water.*
7. Interferon is a natural product of animal cell which protects – *Human and bird cell against variety of viruses.*
8. Plasma membrane of animal cell is composed of – *Lipids, proteins, and oligosaccharides.*
9. Succinic dehydrogenase and cytochrome oxidase are located in the – *Mitochondrial inner membrane.*
10. Single membrane bound cell organelles are – *Lysosomes and Serosomes.*
11. Poisons like Cyanide inhibit Na efflux and K influx during cellular transport. This inhibitory effect is reversed by the injection of ATP. This shows that – *Energy for Na – K exchange pump comes from ATP.*
12. In an experiment, radio active substance is incorporated with amino acid then maximum amount of radio active labeled protein will be found in – *Endoplasmic reticulum co ordinated with polysomes.*
13. Camodulin is a – *Cadmium binding protein.*
14. Besides the primary constriction, there is a secondary constriction in some chromosomes. This is called – *Nucleolar organizer.*
15. Janus green stain is vital stain which is specific for – *Mitochondria.*
16. One month old human embryo has a tail which is – *the actual vestigial tail.*
17. Formation of which complex molecule was noticed by Urey and Miller when they subjected NH₃, CH₄, and H₂O to electric discharge – *Amino acids.*
18. The plant that turns to brown ball during drought (drought adaptation) but turns green just with first shower is – *Selaginella lepidophylla.*
19. The method of determining the age of a tree by counting the annual rings is called – *Dendro chrono biology.*
20. The dyes used to stain chromatin are – *Acetocarmine, Haematoxylin, Feulgen stain, Acetoorcein.*
21. The important peculiarity of the polytene chromosome of Drosophila is – *Size*
22. Polytene chromosomes are formed by – *Endo mitosis or Endo duplication (chromatin multiplication without cell division).*

23. Chiasma are formed during crossing over in the pachytene stage of meiosis I. Presence of one chiasma reduces the chance of another chiasma formation by – *Interference*.
24. Acrosome of sperm is formed from – *Golgi apparatus*.
25. The Mitosis Promoting Factor (MPF) consists of two components namely catalytic and regulatory. The regulatory sub unit is – *Cyclin dependent Kinase or cdk*.
26. In Kreb's cycle, the FAD participates as electron acceptor during the conversion of – *Succinic acid to Fumaric acid*.
27. The correct sequence of Electron acceptors in ATP synthesis is – *cyt.b, c, a, a₃*
28. Microtubules are involved in – *Cell division*.
29. All antibodies are formed of – *Proteins*.
30. Spoilage of oil can be detected by – *fatty acid Erusic acid*.
31. Recently after 1980, evolution is considered as “ RNA World “ because of the discovery – *RNA has enzymatic (Ribozymes) activity*.
32. In Mitosis, the difference between Anaphase and Metaphase is – *Same number of chromosomes but half number of chromatids in anaphase*.
33. 5-Bromo uracil is a base analogue. It pairs with – *Adenine*.
34. Tay – Sachs disease is an autosomal recessive inherited disorder due to – *Ganglioside breakdown and excessive accumulation of Gangliosides*.
35. Histidine amino acid can be converted into biologically active amine Histamine (produces allergy) by – *Lyase enzyme*.
36. Thr glycolytic enzyme are inhibited by Fluoride is – *Enolase*.
37. Cut apple turns brown but does not do so if dipped in Ascorbic acid because of – *inactivation of polyphenol oxidase*.
38. Dictyosome is also called – *Golgi body*.
39. Both ATP and Mg are required for the activity of – *Glucokinase*.
40. NAD and NADP are similar in respect that they – *take up two electron at a time*.
41. A short length of DNA contains 240 adenine and 240 cytosine bases. The total number of nucleotides in this DNA segment is – *480 bases*.
42. The bond in B – *DNA that have to be rotated to convert it to Syn to Anti conformation is – Glycosidic bond*.
43. The substance that is used to determine Glomerular filtration rate is – *Inulin*.
44. The enzyme Hayaluronidase is unique to – *Acrosome of mammalian sperm*.
45. The protein that become a tough and hard on treatment with tannic acid and yield gelatin on boiling with water is – *Collagen*.
46. Spermatozoa in seminal fluid uses – *Fructose*.
47. Quenching is – *Rapid cooling of DNA to fix it in denatured state*.
48. Cyanide resistant respiration is the characteristic of – *Plants*.

