

DELHI PUBLIC SCHOOL

Class : XII

BIOLOGY: ANSWER KEY

- 1) Addition of one extra chromosome to any one pair of chromosome.Ex-Down Syndrome. [1]
- 2) When a phosphate is attached to the 5-OH of nucleoside ,it becomes a nucleotide. [1]
- 3) Because it helps in identifying and eliminating the non-recombinants. [1]
- 4) Mammals from the colder climates have shorter ear and limbs to minimise heat loss. [1]
- 5) A food chain is defined as the transfer of energy (in the form of food) from producer through a series of organisms by repeated eating and being eaten. [1]
- 6) In some citrus and mango varieties some of the nucellar cells surrounding the embryo sac start dividing, protrude into the embryo sac and develop embryos which leads to polyembryony. [1]
- 7) Microsporum, trichophyton and epidermophyton [1]
- 8) Progesterone and its function is maintenance of endometrium. [1]
- 9) a) RNA being a catalyst is more reactive and hence unstable. b) DNA being double stranded resist change by involving repair mechanism. [2]
- 10) Lichen Secrete acid to dissolve rocks.help withering and soil formation. pave way to small plants like Bryophytes.
- 11) Vegetative cell : Bigger in size, abundant food reserve and Largely irregular shaped nucleus. Generative Cell : Small in size, Spindle shaped with dense cytoplasm and nucleus.
- 12) Cell organelle is Mitochondria and its function is to produce energy for movement of tail for sperm motility.
- 13) Active Immunity: Host is exposed to antigens and antibodies are produced by host. Passive Immunity: Ready made antibodies are directly given to protect the body.
- 14) Fungus : Trichoderma polysporum and Yeast : monascus purpureus.
- 15) Explants : Any part of a plant taken out and grown in test tube under sterile conditions in special nutrient media in order to generate whole plant is known as explant.

Out-breeding: Breeding of the un related animals which may be between individuals of the same breed (but having no common ancestors), Or between different breeds (cross breeding) or different species (inter specific breeding).

16) Opioids : flowering plants and fungi, Cannabinoids : cannabis sativa etc

17) Due to release of Heamozoin and rupture of RBC

18) Benign : Confined to original location and do not spread. Malignant : Mass of proliferating cells called tumor cells and grow rapidly invading other cells. And the property not shoen by cancerous cells is known as contact inhibition

19) **promoter**-located towards 5- end.binding site for RNA polymerase.defines template and coding strand for replication.**structural gene**-have information to make m-RNA by transcription.**Terminator**-located towards 3- end.defines end of transcription.

20) Hardy-Weinberg principle says that allele frequency in a population are stable and is constant from generation to generation.Explain $p^2+2pq+q^2=1$.

21) (1) Controlled cross cannot be made (2) progeny produced is very small in number (3) long generation time. Alternate method-Pedigree Analysis

22) a) PCR.b) Denaturation-Annealing-Extension-Amplification c) Do not denature at higher temperature.

23) Sticky ends are the single sstranded portion where the restricted enzyme cuts the DNA.They are called so because they form H-bonds with their cut counter parts.Stickiness of the ends facilitates the action of DNA-ligase.

24) Use-Separation of the DNA fragments.DNA fragments are -vely charged so they move toward anod.Size of the fragment matters.Smallest will move farther.

25) LEACHING-water soluable inorganic nutrient go down to the soil horizon and get precipitated as unavailable salt.STANDING CROP-mass of living material in each trophic level at a particular time.CLIMAX COMMUNITY-the community that is nearly equilibrium with the environment.HYDRARCH SUCCESSION-the series of succession forn hydric to mesic condition.SERE-the entire sequence of communities that successively change in a given area is called sere.NPP-GPP minus Respiration loss.

26) GIFT, AI and Medical Termination of Pregnancy.

27) B-lymphocytes produce antibodies, where as T lymphocytes do not produce antibodies themselves. (diagram – page no: 151)

28) Biodiversity loss : A) Habitat loss and fragmentation b) over – exploitation c) Alien species invasion d) Co extinctions (4)

b) Conservation of species in the original area of dwelling is insitu and conservation of species offsite from the original dwelling location. (1)

29) A) diagram page : 50 , B) Parturition is induced by complex nuero endocrine mechanism. Signals originate from foetus and placenta induces foetal ejection relex. This releases oxytocin and oxytocin acts on uterine muscles to which inturn sectetes more oxytocin and leads to stronger and stronger contractions leading to parturition.

30) Meselson and Stahl.Ref book for explanation.