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Biology -CLASS-XII

SECTION – A

ANSWER KEY

1. 1600 — 1

2. Chasmogamous flowers -- with exposed anther and stigma — 1/2
   Cleistogamous flowers --- Which do not open at all. (Autogamous). — 1/2

3. Ethydium Bromide — 1

4. AUGCAUCAGCCAUGCAUA — 1

5. Spend more energy to generate body temperature
   Larger surface area /lose body heat very fast — ½+1/2=1

6. alpha Lactalbumin/haman protein enriched milk. — 1

7. ACA — 1

8. Ability of the predator to regulate the prey population. — 1

SECTION- B

9. Tri coderma polysporum/ Immunosuppressor
   Monascus purpurea-- blood cholesterol reducing agent. — 2

10. Entamoeba histolytica — 1+1=2

Symptoms: Constipation,Abdominal pain,cramps,stool with excess of mucous and blood clots.

11. unknown genotype cross with recessive plant
result of F1 is 1. If All dominant characters ---- homozygous
2. If half of plants show dominant characters&
Half of them show recessive characters.
---- Heterozygous genotype. ½ each

12. Cells are not Immortal.
Genes from bone marrow cells producing ADA introduce in cells at embryonic stage. 1+1=2

13. ELISA,PCR, RecombinantDNA Technology. 1
Enzyme linked immuno sorbent assay 1

14. Zygote---Diploid /syngamy
PEN----Triploid- Triple fusion (gamete with a nucleus + 2 polar nuclei= triploid)
1+1=2

15. DNA specific to nematode /sense and antisense RNA/ ds RNA formation/ silenced mRNA of pathogen. ½ each

16. A-conidia b) buds c) sponges d) Agave. ½ each

17. A- Regulaters B) Conformers C) partial regulaters. 2

18. DDT neither excreted nor metabolized keeps accumulating in the food chain./Thinning of egg shell and premature breaking of eggs due to interference of DDT with calcium metabolism./Biological magnifiation. ½ each

Section c

19. sertoli,
primary spermatocyte ,
secondary spermatocytes,
spermatozoa,
spermatids.
spermatogonium ½ each

20. Reducing the fertility and productivity due to close inbreeding.
Increases homozygosity/evolve pure line,Harmful recessive genes can be eliminated by selection. 3x1=3

or

macrophages / reverse transcription/ Integrate with host DNA./produce virus affect helper-T cells. 1+ 1+1/2+1/2=3

21. a) Pectinase and Proteases
b) Due to the production of co2 by
c) Propioni bacterium sharmani 1+1+1=3

22. Fragmentation—by detrivores. / Earthworms 1+1+1
Leaching --- water soluble inorganic substances go down into soil.
Catabolism: bacterial and fungal enzymes degrade detritus into smaller substances.

23. i) E.coli.
ii) Bam Hi
iii) rDNA inserted with B. galactosidase in a plasmid.
--- absence of insert --- Blue colour formation.
Presence of insert--- no colour inactivation of enzyme . 3

24. RR X rr--------parents 11/2+11/2
R r--------gamets
Rr----------pink offsprings.

Allele for red colour is not completelydominate over its recessive alleles./Law of dominance is not exhibited.

25.Pleiotropy is defined as a phenomenon when a single gene may produce more than one effect. 1

Mutation of gene that code phenyl alanine hydroxylases causes phenylketonurea.

The other effects are 1.Mental retardation
2.Reduction in hair
3.Skin pigmentation 2

26. a) process by which genetic variations are created bases of DNA through chemicals /radiations.

Selecting and using the plants with desirable characters.

In Mung bean resistance to yellow mosaic virus and powdery mildew were produced by mutation.

b) High yielding varities withresistance to water stress.

1+1+1=3

27a).Australia-------1+1+1

b).Adative radiation-Evolution of different species in a given geographyical area Starting from a point and radiating to other areas called adaptive radiation.

c.) Convergent evolution

section D

28.Spermatogonia, primary spermatocytes secondary spermatocytes spermatids,spermatozoa (meiosis I and meisis ii) 3

Plasma membrane, Acrosome ,neck, mitochondria, Tail,nucleus,middle piece. 2

Or

Fimbria, Infundibulum,Ampulla, isthmus,cervix and vegina. 2

Dagram 1/2

primary Follicle, secondary follicle tertiar Follicle (antrum), Graafian follicle ,Ovulation
Developing corpus luteum ,Regression of corpus luteum , 21/2 (with explanation)

29 .Infccion, Blending , Centrifugation 3+2=5
Radioactive sulphur and phosphate.
Bacteria which was infected with virus that had radioactive DNA were radioactive (with Explnation)

(Or)

S-Strain----virulent----mice die 5x1=5
R-Strain non-virulent-----live
Heat killed S Strain ----Live
Heat killed+ R strain ---die
Transfer of genetic material from heat killed s-strain to R-strain.
R-Strain become virulent.

30) Platinum –palladium and rhodium 1
Unburnt hydrocarbons are converted into carbon di oxide and water.CO and nitric oxides are converted into co2 and nitrogen gas. 2

- CNG burns most efficiently. Cheaper than petrol, cannot be siphoned off by thieves and adulterated like petrol or diesel. 1
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- The problem of switching over to CNG is the difficulty of laying of pipe lines to deliver CNG though distributing poin and ensuring uninterrupted supply. 1

Or

a)Conservation of Biodiversity.1
b)Economic benefits
fire wood, fibre,Construction materials,medicines,industrial products. 2
Pollinators, oxygen,Aesthetic pleasure.
c)In situ and ex situ conservations ---Explanation 2
