

### **Sample questions- MCQ**

1. Hormone pair required for a callus differentiation are
  - (a) Auxin and Cytokinin
  - (b) Auxin and Ethylene
  - (c) Auxin and Abscicic acid
  - (d) Cytokinin and Giberrllin
2. Bacteria protect themselves from viruses by fragmenting viral DNA with
  - (a) Ligase
  - (b) Endonuclease
  - (c) Exonuclease
  - (d) Gyrase
3. ELISA is for
  - (a) Using radiolabelled second antibody
  - (b) Usage of RBCs
  - (c) Using complement-mediated cell lysis
  - (d) Addition of substrate that is converted into a coloured end product
4. RNA interference helps in
  - (a) Cell proliferation
  - (b) Micropropagation
  - (c) Cell defence
  - (d) Cell differentiation
5. The first clinical application of gene therapy over a 4 year old girl was for
  - (a) Adenosine deaminase deficiency
  - (b) Adenosine deficiency
  - (c) Growth deficiency
  - (d) Adenine deficiency
6. The crossing of F1 to any of the parent is known as
  - (a) Test cross
  - (b) Back cross
  - (c) F1 cross
  - (d) All of the above
7. HPLC is used for –
  - (a) To detect functional group of the compound
  - (b) To detect molecular weight of the compound
  - (c) To separate, identify and quantify each component in a mixture
  - (d) To detect the number of hydrogen and carbon atoms in a compound.
8. Glucose is a –
  - (a) Ribosugar
  - (b) Aldosugar
  - (c) Ketosugar
  - (d) None of these
9. LER is an index to assess
  - (a) Light intensity

- (b) Intercropping advantage
  - (c) Crop rotation advantage
  - (d) Leaf area.
10. Fertilizer that supplies both nitrogen and sulphur is
- (a) Urea
  - (b) Ammonium sulphate
  - (c) Ammonium chloride
  - (d) CAN
11. The microorganisms responsible for the conversion of ammonium ion to nitrite nitrogen in soil is –
- (a) Rhizobium
  - (b) Nitrobacter
  - (c) Nitrosomonas
  - (d) Algae
12. The use of microorganisms to remediate environmental pollutants is known as –
- (a) Phytoremediation
  - (b) Micro-remediation
  - (c) Nano-remediation
  - (d) Bioremediation
13. The most abundant greenhouse gas in earth's atmosphere is –
- (a) Propane
  - (b) Methane
  - (c) Carbon dioxide
  - (d) Nitrous oxides
14. Which molecule confers toxicity to gram negative bacteria
- a. Teichoic acid
  - b. Lipoteichoic acid
  - c. Lipid A
  - d. None of the above
15. In determination of soil available phosphate by Bray's II method, the extractant used is
- (a) Ammonium acetate
  - (b) Sulphuric acid
  - (c) Sodium bicarbonate
  - (d) Ammonium fluoride.
16. Assume the number of misprints per page in observing 100 pages is distributed as Poisson. If the number of pages with no misprint is 10, then a good estimate of the average number of misprints in a page of the book is
- (a) 0.1
  - (b) 1.0
  - (c) 2.3
  - (d) 5.0
17. For comparing the means of two normal populations based on two samples of sizes 5 and 6, when the variances are not same, one should use
- (a) t-test
  - (b) F-test
  - (c) Chi-squares test
  - (d) none of the above tests

18. Based on the data on blood sugar level and BMI, the regression equation of MBI on blood sugar was found to be:

$$Y = 0.2X - 2$$

If the correlation co-efficient between  $X$  and  $Y$  is 0.2, then

- (a) the means of  $X$  and  $Y$  are equal, and the variances of  $X$  and  $Y$  are equal
- (b) the means of  $X$  and  $Y$  need not be equal, but the variances of  $X$  and  $Y$  are equal
- (c) the means of  $X$  and  $Y$  are equal, but the variances of  $X$  and  $Y$  need not be equal
- (d) neither the means of  $X$  and  $Y$  need to be equal, nor the variances of  $X$  and  $Y$  need to be equal.