

1. Probiotics are **(2007)**
- (A) Live microbial food supplement
 - (B) Cancer inducing microbes
 - (C) New kind of food allergens
 - (D) Safe antibiotics
2. A viral disease of poultry is **(2007)**
- (A) Coryza
 - (B) New Castle disease
 - (C) Pasteurellosis
 - (D) Salmonellosis
3. Chick pea is being grown in area where bacterial blight is common. What measures (a—d) should be taken? **(2008)**
- (a) Spraying Bordeaux mixture
 - (b) Controlling insect or vector of pathogen
 - (c) Use disease free seeds
 - (d) Use seeds of disease resistant variety
- (A) c, d
 - (B) a, d
 - (C) b, c
 - (D) a, d
4. Somaclonal variations are the ones **(2009)**
- (A) Caused by mutagens
 - (B) Produced during tissue culture
 - (C) Induced during sexual embryogeny
 - (D) Caused by gamma rays
5. Polyethylene glycol method is used for
- (A) Seedless fruit production
 - (B) Energy production from sewage

(C) Gene transfer without a vector

(D) Biodiesel production

6. Which is not correctly matched? (2010)

(A) Explant—Excised plant part used for callus formation

(B) Cytokinins—Root initiation in callus

(C) Somatic embryos—Embryos produced by vegetative cells

(D) Anther culture—Haploid plants

7. Maize hybrids have been developed for higher amount of (2010)

(A) Methionine

(B) Lysine

(C) Leucine

(D) Cysteine.

8. Krishna/Ratna and 'Jaya' are varieties of (2011)

(A) Maize

(B) Wheat

(C) Rice

(D) Barley

9. When two unrelated individuals or lines are crossed, the performance of F_1 hybrids is often superior to both its parents. The phenomenon is called (2011)

(A) Metamorphosis

(B) Heterosis

(C) Splicing

(D) Transformation

10. Study statements a—d (about organic farming) and find out the correct ones. (2011)

(a) Utilises genetically modified crops like Bt cotton

(b) Uses only naturally produced input like compost

(c) Does not use pesticide and urea

(d) Produces vegetables rich in vitamins and minerals

(A) b, c and d

(B) c and d only

(C) a and b only

(D) b and c only

11. Select the correct statement out of (a—d). (2012)

- (a) Single celled *Spirulma* can produce large quantities of food rich in protein, minerals and vitamins.
- (b) Body weight –wise the microorganism *Methylophilus methylotrophus* produces several times more protein than a cow per day.
- (c) Button Mushroom is a rich source of vitamins.
- (d) A rice variety has been developed which is very rich in calcium.

(A) c and d

(B) a, c and d

(C) b, c and d

(D) Hill bunt

12. Pusa Komal variety of Cow Pea is resistant to disease (2012)

(A) White rust

(B) Leaf curl

(C) Bacterial blight

(D) Hill bunt

13. Which part is most suitable for raising virus free plants in Micropropagation? (2012)

(A) Bark

(B) Node

(C) Vascular tissue

(D) Meristem

14. Green revolution occurred in India during (2012)

(A) 1950s

(B) 1960s

(C) 1970s

(D) 1980s

15. Apiculture is associated with groups of plants (2012)

(A) Grapes, Maize, Potato

(B) Sugarcane, Paddy, Banana

(C) Guava, Sunflower, Strawberry

(D) Pineapple, Sugarcane, Strawberry

16. Which is a breed of cattle?

- (A) **Aryshire**
- (B) Ghagus
- (C) Kadaknath
- (D) Scampi

17. In vitro clonal propagation in plants is characterized by **(2014)**

- (A) Microscopy
- (B) PCR and RAPD
- (C) Northern blotting
- (D) **Electrophoresis and HPLC.**

18. To obtain virus free healthy plants from a diseased one by tissue culture technique, which parts/parts of the diseased plant will be taken? **(2014)**

- (A) Epidermis only
- (B) Apical meristem only
- (C) Palisade parenchyma
- (D) **Both apical and axillary meristems**

19. Any part of a plant taken out and grown in a test tube under sterile condition in special nutrient media, is called **(2015)**

- (A) Callus
- (B) Clone
- (C) Adventitious tissue
- (D) **Explant**

20. In biotechnology, Hybridoma technique was developed by **(2015)**

- (A) Robert Crook and Edward Jenner
- (B) Paul Ehrlich
- (C) **George Kohler and C. Milstein**
- (D) Antony Leeuwenhook

21. For studying and understanding language of honeybees, the scientist who was awarded Nobel Prize, was **(2015)**
- (A) Rachael Carson (B) D. Muller
(C) Carl Von Frisch (D) T.A. Loomis
22. The developed of somatic embryos was first observed in carrot suspension cultures by **(2015)**
- (A) Steward et al (1958)
(B) Reinert (1958)
(C) Braun (1959)
(D) Guha and Maheswari (1964)
23. A technique of micropropagation is **(2015)**
- (A) Protoplast fusion
(B) Embryo rescue
(C) Somatic hybridization
(D) Somatic embryogenesis
24. The crops engineered for glyphosate are resistant/ tolerant to **(2015)**
- (A) Insects (B) Herbicides
(C) Fungi (D) Bacteria
25. Which of the following enhances or induces fusion of protoplasts? **(2015)**
- (A) IAA and kinetin
(B) IAA and gibberellins
(C) Sodium chloride and potassium chloride
(D) Polyethylene glycol and sodium nitrate

26. Rachel Carson's famous book "Silent Spring" is related to (2015)

- (A) Population explosion
- (B) Ecosystem management
- (C) Pesticide pollution
- (D) Noise pollution

SECTION D: CHAPTER – END TEST

1. Pebrine disease in silkworm is caused by

- (A) Leishmania
- (B) Nosema
- (C) Trypanosoma
- (D) Varticella

2. Black rot of crucifer is caused by

- (A) Bacteria
- (B) Fungi
- (C) Virus
- (D) Protozoa

3. Tissue culture technique can produce indefinite number of new plants from a small parental tissue. The economic importance of the technique is in raising

- (A) Variants through picking up somaclonal variations
- (B) Genetically uniform population of an elite species
- (C) Homozygous diploid plants
- (D) Development of new species

4. On culturing the young anther of a plant a botanist got a few diploid plants along with haploid plants. Which of the following might have given the diploid plants?

- (A) Exine of pollen grain
- (B) Vegetative cell of pollen
- (C) Cells of anther wall
- (D) Generative cell of pollen

5. Hen's eggs contain two types of yolk. They are
- (A) Yellow and red (B) Yellow and brown
(C) Yellow and white (D) Red and white
6. In crop improvement programme, haploids are important because they
- (A) Require one half of nutrients
(B) Are helpful in study of meiosis
(C) Grow better under adverse conditions
(D) From perfect homozygous individuals diploidisation
7. Best aquarium is located at
- (A) New Delhi (B) Lucknow
(C) Tarapur, Mumbai (D) Kolkata
8. In tissue/bacterial culture glassware and nutrients are sterilized through
- (A) Water bath at 200°C
(B) Dry air oven at 200°C
(C) Dehumidifier
(D) Autoclave
9. An old breeding technique is
- (A) Introduction (B) Selection
(C) Mutation breeding (D) Hybridisation
10. Hybrid vigour is best maintained in vegetatively reproducing plants because they are
- (A) Resistant to diseases
(B) Easily propagated
(C) With long life span
(D) Little liable to lose vigour due to absence of sexual reproduction

11. The desired varieties of economically useful crops are raised by

- (A) Vernalisation (B) Mutation
(C) Natural selection (D) Hybridisation

12. New varieties of plants are produced

- (A) Selection and hybridization
(B) Mutation and selection
(C) Introduction and mutation
(D) Selection and introduction

13. Jaffaraadi, Murrah and Mehsana are breeds of

- (A) Cow (B) Buffalo
(C) Goat (D) Sheep

14. Wild varieties of plants must be conserved to

- (A) Maintain ecosystem
(B) Feeding wild animals
(C) Future evolution
(D) Incorporate useful traits in future crop varieties

15. Plant breeder who developed the first hybrid was

- (A) Fairchild (B) Mendel
(C) Swaminathan (D) Maheswari

16. In poultry coccidiosis is caused by

- (A) Virus (B) Fungus
(C) Helminth parasite (D) Protozoan

17. IPGRI is

- (A) Indian Plant Genetic Resources Institute
- (B) International Plant Genetic Resource Institute**
- (C) International Pine Genetic Resource Institute
- (D) International Potato Genetic Resource Institute

18. Pure line breeds refer to

- (A) Homozygosity and independent assortment
- (B) Homozygosity only**
- (C) Heterozygosity
- (D) Heterozygosity and linkage

19. Exotic breed of cattle is

- (A) Friesian
- (B) Holstein
- (C) Jersey
- (D) All the above**

20. If more than single species of fish is cultured at a time, then it is called

- (A) Monoculture
- (B) Aquaculture
- (C) Polyculture**
- (D) Mori culture

21. A disease of poultry is

- (A) Anthrax
- (B) Rainkhet**
- (C) Foot and mouth
- (D) Pebrine

22. Axenic culture is

- (A) Pure culture without any contamination**
- (B) Pure culture without any nutrient
- (C) Culture of a tissue
- (D) Culture of gene

23. Cross between two species of the same genus is
- (A) Intraspecific hybridization
 - (B) Intervarietal hybridization
 - (C) Interspecific hybridization
 - (D) Intergeneric hybridization
24. Haploids from anther were first obtained from
- (A) *Brassica*
 - (B) *Datura*
 - (C) *Nicotiana*
 - (D) *Gossypium*
25. Higher milk yielding best breed of milch cattle in the world is
- (A) Brown Jersey
 - (B) Ongole
 - (C) Holstein—Friesian
 - (D) Hallikar
26. Technique that was employed to produce haploids of *Datura* was
- (A) Meristem culture
 - (B) Anther culture
 - (C) Embryo culture
 - (D) Protoplast culture
27. Protoplast isolation was first carried out by
- (A) Mendel
 - (B) Cocking
 - (C) Bateson
 - (D) Skoog
28. First man-made cereal Triticale is
- (A) Diploid
 - (B) Hexaploid
 - (C) Octaploid
 - (D) B and C
29. Single cell proteins are
- (A) Microorganisms
 - (B) Enzymes
 - (C) Antibiotics
 - (D) Toxins

30. "Gill rot" disease of fish is due to

(A) *Aeromonas* species

(B) *Branchiomyces sanguinis*

(C) *Bacillus polymixa*

(D) *Bacillus subtilis*

31. A man-made genus produced by a cross between cabbage and Radish is

(A) *Bursa pastoris*

(B) *Lysogenicophyll*

(C) *Raphanobrassica*

(D) *Secale*

32. Which is man-made?

(A) *Triticum*

(B) *Cicer arietinum*

(C) *Triticale*

(D) *Secale*

33. In protoplast fusion, the enzymes required are

(A) Cellulase, hemicellulase, pectinase

(B) Pectinase

(C) Ligase, hemicellulase

(D) Hemicellulase

34. Pick up the wrong statement.

(A) Pectinase and cellulose dissolve cell wall

(B) Some cyanobacteria form symbiotic association with fern *Azolla*

(C) Regeneration of cell wall in somatic hybridization is induced by PEG

(D) Plants obtained through pollen culture are always haploid.

35. A cybrid is a hybrid carrying

(A) Genomes and cytoplasm of two different plants

(B) Cytoplasm of two different plants

- (C) Cytoplasm of two different plants but genome of one plant
- (D) Genomes of two different plants
36. Single cell protein is
- (A) Protein synthesized by skin cell
- (B) A protein synthesized by liver cell
- (C) Protein synthesized by microorganisms
- (D) A protein synthesized by muscle cell
37. The plant of *Triticum aestivum* is
- (A) Haploid
- (B) Diploid
- (C) Tetraploid
- (D) Hexaploid
38. Cellular tetraploidy was first demonstrated by
- (A) T. Schwann
- (B) A.V. Leeuwenhoek
- (C) F.C. Steward
- (D) Robert Hooke
39. Blue revolution is related to
- (A) Apiculture
- (B) Fish production
- (C) Milk production
- (D) Crop rotation
40. Slaughter house is known as
- (A) Abattoir
- (B) Apiary
- (C) Aviary
- (D) Arboretum
41. Production of superior F_1 hybrids is called
- (A) Emasculation
- (B) Domestication
- (C) Inbreeding
- (D) Heterosis

42. To increase lactation milk yield, cow is given
- (A) Sorbitol (B) **Sitlbesterol**
(C) Prolactin (D) Gonadotrophin
43. Lymphoid leucosis disease of poultry is caused by
- (A) Bacterium (B) **Virus**
(C) Fungus (D) Helminth
44. Blue revolution is
- (A) **Increased exploitation of aquatic product**
(B) Increased grain production
(C) Increased beef production
(D) Increased milk production
45. Callus can form from plantlets through altering concentration of
- (A) **Hormones** (B) Amino acids
(C) Vitamins (D) Sugars
46. Principal cereal crop of India is
- (A) Wheat (B) **Rice**
(C) Maize (D) Barley
47. Triticale has been developed through cross between
- (A) Maize and Rye (B) Maize and grass
(C) Rice and Rye (D) **Wheat and Rye**
48. Which one of the following is not a fungal disease?
- (A) Rust of wheat (B) Smut of Bajra
(C) **Black rot of crucifers** (D) Red rot of sugarcane

49. The instrument useful to sterilize glass wares and culture medium is

(A) Autoclave

(B) Incubator

(C) Dry oven

(D) Freezer

50. Mutations can be induced by

(A) Ethylene

(B) Infra red radiation

(C) Gamma radiation

(D) IAA

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