IMPORTANT PRACTICE QUESTION SERIES FOR NEET EXAM – 1

1. The cultivation of aquatic animals or plants for food is called
   a) Aquaculture b) Pisciculture c) Sericulture d) Apiculture
2. Differentiation of organs and tissues in a developing organism is associated with
   a) Developmental mutations b) Differential expression of genes
   c) Lethal mutations d) Deletion of genes
3. Triticale is obtained by crossing wheat with:
   a) Oat b) Barley c) Maize d) Rye
4. Essential oils are made of:
   a) Vitamins b) Auxins
   c) Trace elements d) Aromatic volatile organic substances
5. Mule is produced by
   a) Inbreeding b) Artificial insemination
   c) Interspecific hybridization d) Intraspecific hybridization
6. Rearing and breeding of fish in ponds, tanks and artificial reservoirs is called:
   a) Aquaculture b) Fishing c) Pisciculture d) Apiculture
7. Bee wax is a product of ……..importance
   a) Industrial b) Domestic c) Medicinal d) All of these
8. In 1963 during green revolution the increase in crop production of wheat was due to the introduction of
   a) Semi-dwarf varieties of wheat
   b) Jaya and Ratna
   c) Both (a) and (b)
   d) Sonalika and Kalyan Sona
9. Safflower oil is obtained from the seeds of:
   a) *Linumusitatissimum* b) *Lelianthusannus*
   c) *Sesamumindicum* d) *Carthamustinctorius*
10. Which of the following is the main aim of evaluation of germplasm in plant breeding program?
    a) To identify plants with desirable combination of characters
    b) For effective exploitation of the natural genes
    c) Both (a) and (b)

d) For collection of variability

11. Spawning in fishes can be induced by:
    a) TSH b) Thyroxine c) FSH and LH d) STH
12. An old breeding technique is:
    a) Introduction b) Selection c) Mutation breeding d) Hybridisation
13. The botanical name for groundnut is:
    a) *Indigoferatinctoria* b) *Crotolariajuncea*
    c) *Arachis hypogea* d) *Astragalusgummifer*
14. *Saccharumbarberi* was/is grown in
    a) East India b) West India c) North India d) South India
15. Need for breeding plants, to improve food quality are
    I. lack of adequate food having adequate nutritional requirements in the world
    II. majority people are unable to buy enough fruits, vegetables, legumes, fish and meat and thus suffer from deficiencies or hidden hunger
    III. essential micronutrients are absent from diet
    Choose the correct option
    a) I and II b) I and III c) II and III d) I, II and III
16. Mating between two individuals differing in genotypto produce genetic variation is called
    a) Domestication b) Incubation c) Hybridization d) Mutation
17. The cotton fibre from the cotton plant is obtained from:
    a) Roots b) Stems c) Seeds d) Leaves
18. The cheapest high energy crop of India is:
    a) Apple b) Guava c) Mango d) Banana
19. Emasculation of flowers is carried out through removal of:
    a) Sigma b) Sepals and petals c) Anthers d) Entire organism
20. In protoplast fusion, the enzymes required are
    a) Cellulose, hemicellulose, pectinase
    b) Pectinase
    c) Ligase, hemicellulose
    d) Hemicellulose
21. Cows and buffaloes remain in heat for:
    a) 24-36 hours b) 36-48 days c) 7-10 days d) 15-20 days
22. According to NCERT text, which of the following are selection and testing of superior recombination in plant breeding?
    a) It involves selection of plants amont the progeny of the hybrids with desire combination of characters
    b) The hybrid are superior to both the parents this is called hybrid vigour
    c) They are self-pollinated for several generations till they rich a stable of uniformily or homozygosity in order to ovoid the segregation of characters in the future progeny
    d) All of the above
23. Which of the following shows correct chronological order of the events occurring during callus culture?
    a) Callus → Cell division → Explant → Addition of cytokinin → Cells acquire meristematic property
    b) Explant → Cell division → Addition of cytokinin → Cells acquire meristematic property
    c) Explant → Cell division → Callus → Addition of cytokinin → Cells acquire meristematic property
    d) Callus → Explant → Cell division → Addition of cytokinin → Cells acquire meristematic property
24. Which of the following organisms is useful for us?
    a) *Musca* b) *Bombyx* c) *Pheretima* d) *Periplaneta*

25. The part of the grain in cereals, where much of the protein lies is the:
    a) Aleurone b) Endosperm c) Pericarp d) Embryo
26. 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) Form perfect homozygous individuals on diploidisation
27. The honey bees exhibit a type of dance to communicate the location of food. This is known as:
    a) Tap dance b) Round dance and waggling dance
    c) Break dance d) Waggle dance
28. The plant cell without the cell wall is called
    a) Protoplast b) Cytoplast c) Nucleoplast d) None of these
29. The capacity of a cell explant to grow into a whole plant is called
    a) Plant culture b) Tissue culture c) Cellular totipotency d) All of these
30. Close inbreeding usually results in reduction of fertility and productivity. This is called
    a) Homozygosity b) Outbreeding
    c) Inbreeding depression d) Outbreeding depression
31. Read the given statement about outcrossing
    I. It is the breeding between of animals with in the same breed but do not have common ancestors on either side of their pedigree up to 4-6 generation
    II. It is done to increase milk production and growth rate in animals
    Which of the statement given above is incorrect?
    a) Only I b) Only II c) I and II d) None of these
32. ..... is a phenomenon by which genetic variations is achieved through changes in the base sequences with in genes, which creates a new character or trait absent in parental generation
    a) Apomixis b) Mutation c) Mutation breeding d) Heterosis
33. Methods of breeding for acquiring disease resistance are
    I. conventional breeding techniques
    II. mutation breeding
    III. radiation breeding
    Chose the correct option
    a) I and II b) I and III c) I only d) III only
34. Word livestock refers to
    a) Sheep and goat only b) Pigs and camels only
    c) Cattle and buffaloes only d) All of these
35. The animal most useful on difficult terrains is:
    a) Mule b) Yak c) Camel d) Elephant
36. Which of the following statement are the main objective of animals breeding?
    I. improved growth rate
    II. increased production of milk, meat, egg, wool, etc.
    III. superior quality of milk, meat eggs wool, etc.
    IV. improved resistance to various disease
    Choose the correct option
    a) I and II b) I, II and III c) II, III and IV d) I, II, III and IV
37. A beast of burden which needs little care is:
    a) Pig b) Donkey c) Mule d) Yak
38. Isinglass, a type of byproduct of fish industry is principally used for
    a) Feeding cattle, pigs and poultry
    b) Preparation of paints and varnishes
    c) Clarification of vinegar, wines and beer
    d) Production of insulin

39. The enzyme used for isolation of single cell from explant/cell is
    a) Pectinase b) Catalase c) Ligninase d) Maltase
40. The parameters carried out for managing dairy farm are
    I. selection of both the male and female animals having high yielding potential and resistance to diseases
    II. regular visits by a veterinary doctor
    III. each animal should be fed on a balance ratio
    IV. pay attention to good animal management and general supervision
    Which of the above statement are correct?
    a) I and II b) I, II and III c) II, III and IV d) I, II, III and IV
41. Ambergis is the secretion from the intestine of ..... used in the manufacture of perfumes and other cosmetics:
    a) Tachyglossus-$Echidna$ b) Physetter-Sperm whale
    c) Musk-Deer d) Kangaroo-$Macropus$
42. $Hisardale$ is a new breed of ...A... developed in Punjab by crossing ...B... and ...C... .
    Here A and C refers to
    a) A-sheep, B-Bikaneri ewes, C-Marino rams b) A-chicken, B-Dorking, C-Sussex
    c) A-chicken, B-leghorn, C-Plymouth rock d) A-cow, B-Jersy, C-Brown swis
43. Economic importance of fish includes
    I. fish as food
    II. source of income
    III. aesthetic value
    Which of the above are correct?
    a) I and II b) I and III c) II and III d) I, II and III
44. Lysine and tryptophan are
    a) Proteins
    b) Non-essential amino acids
    c) Essential amino acids
    d) Aromatic and no acids
45. Which of the following disease resistance enhancement introduced by mutation in moong bean?
    I. Yellow mosaic virus
    II. Powdery mildew
    III. Black rust
    Choose the correct option
    a) I and II b) I and III c) II and III d) I, II and III
46. The conventional method of breeding for resistance includes
    I. screening the germplasm for resistant sources
    II. hybridization of selected parents
    III. selection and evaluation of the hybrids
    IV. testing and release of new varieties
    Choose the correct option
    a) I, II and III b) I, III and IV c) II, III and IV d) I, II, III and IV
47. The primary aim of animal breeding is to breed such animals which are able to produce
    a) Qualitative increase in the product
    b) Quantitative increase in the product
    c) Marketing of animal product
    d) Both (a) and (b)
48. The scientific name of maize is:
    a) Zingiber b) $Zeamays$ c) Raphanus d) Daucas
49. What is the outcome of increased resistance power in crops?
    I. Enhance production

II. Reduces the dependence on fungicides and bacteriocides
III. Reduces the dependence on technical agricultural tools
Choose the correct option
a) I and II b) I and III c) II and III d) I, II and III

50. The insect that is not found in the wild state is:
a) Lac insect b) Cochineal insect c) Honey bee d) Silk moth
51. Aim of plant breeding is to grow
a) Disease free varieties b) High-yielding varieties
c) Early-maturing varieties d) All of the above
52. Which of the following is not an oil seed?
a) *Helianthusannus* b) *Cocosnucifera* c) *Arachis hypogea* d) *Phaseolusaureus*
53. Improved varieties of wheat suitable for Indian environment have been developed by
a) Euploidy and cloning b) Hybridization and mutation
c) Polyploidy and hybridization d) Cloning and polyploidy
54. ..... is used in the manufacture of many items including cosmetics, shaving creams and polishes of various kinds. The most appropriate word for filling the blank is
a) Bee wax b) Honey c) Latex d) Resin
55. A milch breed of cow is:
a) Haryana b) Malvi c) Kankrej d) Halliker
56. ..... is an industry that includes catching processing or selling of aquatic animals
a) Fisheries b) Apiculture c) Sericulture d) None of these
57. The embryo which develops from somatic cell is called
a) Somatic embryo b) Reproductive embryo
c) Clone embryo d) None of these
58. Hinny is a cross breed between:
a) Male donkey and female horse b) Female donkey and male horse
c) Male mule and female horse d) None of these
59. Science of altering the genetic pattern of plants in order to increase their value and utility for human welfare is called
a) Plant breeding b) Agriculture c) Plant genetics d) All of these
60. Which one of the following is the American poultry breed?
a) Australorp b) Rhode Island Red c) Minorca d) Aseel
61. Compared to a bull a bullock is docile because of:
a) Higher levels of cortisone
b) Lower levels of blood testosterone
c) Lower levels of adrenalin/noradrenalin in its blood
d) Higher levels of thyroxina
62. Maximum cocoon and raw silk production is in:
a) China b) Japan c) U.S.S.R d) Brazil
63. Which of the following is a disease resistant, high yielding breed of the poultry developed in Karnataka?
a) Aseel b) White leghorn c) Giriraja d) Plymoth rock
64. Which one of the following products of apiculture is used in cosmetics and polishes?
a) Honey b) Oil c) Wax d) Royal jelly
65. Semi-dwarf varieties of rice were developed from
a) IR-8 b) Taichung Native-1 c) Both (a) and (b) d) Jaya and Ratna
66. Largest silk producing state of India is:
a) Karnataka b) Bihar c) Assam d) West Bengal
67. Larval form of silk moth is called:
a) Naiad b) Maggot c) Caterpillar d) Wriggler
68. Bhutia is a breed of:

a) Chicken b) Goat c) Sheep d) Horse

69. Which of following species is specially domesticated and reared for high economic importance?
a) *Apisindica* b) *Apismellifera* c) *Apisdorsata* d) *Apisflorea*
70. Passive, non-locomotory and non-feeding stage in life history of Silk moth is:
a) Caterpillar b) Imago c) Nymph d) Pupa
71. Regulations governing movement of diseased plant material are called:
a) Crop protection b) Quarantine c) Plant regulation d) Rotation
72. The larger distribution of clean quality milk all the world over can be said to be due to the great work of:
a) Robert Koch b) Leeuwenhoek c) Louis Pasteur d) Blackmann
73. Teak is obtained from plant:
a) *Shorearobusta* b) *Mangiferaindica* c) *Tectonagrandis* d) *Cedrusdeodora*
74. Which of the following is not a true pulse crop?
a) *Viciafaba* b) *Phaseolusaureus* c) *Cassisfistula* d) *Cajanuscajan*
75. In tissue culture, roots can be induced by
a) Lower concentration of cytokinin and higher concentration of auxins
b) Only cytokinin and no auxins
c) No cytokinin and only auxins
d) Higher concentration of cytokinin and lower concentration of auxins
76. Blue revolution
I. It is the rapid expansion intensive commercial aquaculture
II. Increase global food production and reduce widespread hunger
Which of the statements given above is/are correct?
a) Only I b) Only II c) I and II d) None of these
77. Cryopreservation is useful for:
a) Preservation of semen b) Very young foetuses
c) Living cells and body parts d) All the above
78. Keeping beehives in crop field during flowering period increases
a) Honey and wax yield b) Crop yield c) Both (a) and (b) d) Pollination in wheat
79. New varieties of plants can be produced by:
a) Selection and hybridization
b) Subjecting them to very heavy dose of radiation
c) Subjecting them to doses of radiation and selection
d) Subjecting them to continuous radiation
80. Hidden hunger can be defined as
a) Majority people are unable to buy enough fruits, vegetables, legumes, fish and meat and thus suffer from deficiency
b) People are unable to buy healthy drink item and thus suffer from deficiency
c) People are unable to buy vitamin and minerals medicines and thus suffer from deficiency
d) All of the above
81. Pure line breeds refer to:
a) Homozygosity and independent assortment b) Homozygosity only
c) Heterozygosity d) Heterozygosity and linkage
82. International Rice Research Institute (IRRI) is situated at
a) New York (USA) b) Tokyo (Japan) c) Manilla (Philipines) d) Hydrabad (India)
83. Pomato is a somatic hybrid of
a) Potato and onion b) Potato and tomato c) Potato and brinjal d) Potato and garlic
84. Real product of apiculture is
a) Honey b) Bee wax c) Both (a) and (b) d) Sugar
85. Protoplasts of two different species are fused in
a) Miropropagation b) Somatic hybridization

c) Clonal propagation d) Organography

86. The largest groundnut producing country is:
a) U.S.A. b) Brazil c) India d) Burma

87. A breeder evolving disease resistant variety will start with:
a) Working out yield of different varieties b) Go through the subject in library
c) Selection of parents d) Hybridisation

88. Which one of the following is the source of silk?
a) Eggs b) Caterpillar c) Cocoon d) Pupa

89. Self pollination results in:
a) Heterosis b) Hybridisation
c) Polyploidy d) Inbreeding depression

90. "Jaya" and "Ratna" developed for green revolution in India are the varieties of:
a) Maize b) Rice c) Wheat d) Bajra

91. Animal husbandry deals with
I. breeding of livestock buffaloes, cows, sheep, camels, etc., that are useful to humans
II. rearing, catching, selling, etc., of fish, molluscs and crustaceans
III. breeding of fowls for human use
Which of the statement give above are correct?
a) I and II b) I and III c) II and II d) I, II and III

92. Rate of mutations is induced by means of certain agents called
a) Mutagens b) Carcinogen c) Oncogenes d) None of these

93. Which statement is correct about centre of origin of plant?
a) More diversity in improved variety b) Frequency of dominant gene is more
c) Climatic condition more favourable d) None

94. Consider the following statements
I. Breeding of animal is very important for animal husbandry
II. Both the male and female animals selected for breeding should be of superior quality
III. The word 'husbandry' means the management of domestic affair
IV. In our country, poultry mainly means chickens, domesticated for egg
V. Cows and buffaloes generally give more milk than goats and sheep
VI. The yellow colour of buffalo milk is due to carotene
Which of the statement given above are true and which are false?
I II III IV V VI
a) F F T T F F b) T T F F T F c) T T T F T F d) F T F T T F

95. Emasculation is removal of:
a) Stigma from flower of male parent b) Calyx from flower of male parent
c) Calyx from flower of female parent d) Stamens from flowers of female parent

96. Lac is:
a) Excretion of lac insect b) Dead body of lac insect
c) Body secretion of lac insect d) None of the above

97. The most common egg-type variety used for commercial production through out the world is
a) Leghorn b) Plymoth rock c) Cornish d) New Hampshire

98. In livestock breeding experiments which of the following stage is transferred to surrogate mothers
a) Unfertilized eggs b) 2 celled embryo
c) Fertilised egg d) 8 to 32 celled embryo

99. High yielding variety of rice is:
a) Dhann b) IR-8 c) *Tripsacum* d) *Digitaria*

100. A tool in crop improvement involving identification of genes, transfer and integration is:
a) Protoplast fusion and tissue culture b) Somaclonal hybridisation
c) Gene bank technology d) Genetic engineering

IMPORTANT PRACTICE QUESTION SERIES FOR NEET EXAM – 2

201. The various methods of crop improvement are
I. selection II. Hybridization
III. polyploidy IV. mutation breeding
V. genetic engineering
Choose the correct option
a) I,II, III, IV and V b) I, II, III and V c) II, III, IV and V d) I, III, IV and V

202. Indian Agriculture Research Institute is situated at:
a) Chennai b) New Delhi c) Bangalore d) Shillong

203. Apiculture means
a) Rearing of honey bees b) Rearing of silkworm c) Rearing of lac insect d) None of these

204. Ishingless is obtained from:
a) Liver of frog b) Scales of fishes c) Air bladder of fishes d) Skin of shark

205. The advantages of single cell proteins are
I. easy to grow
II. nutrient rich
III. high yield
Choose the correct option
a) I and II b) I and III c) II and III d) I, II and III

206. Meristem culture is practiced in horticulture to get
a) Somaclonal variation b) Haploids c) Virus-free plants d) Slow-growing callus

207. Examples of high-yielding and disease resistant wheat varieties are
a) Sonalika b) Kalyan Sona c) Both (a) and (b) d) Jaya

208. The length of silk fibre which surrounds a cocoon is about:
a) 800 to 1200 yards b) 8000 to 12000 yards
c) 800 to 1200 feet d) 8000 to 12000 metres

209. The objective of biofortification is to improve
I. protein content and quality
II. oil content and quality
III. vitamin content
IV. micronutrients and mineral content
Choose the correct option
a) I, II and III b) I, II and IV c) II, III and IV d) I, II, III and IV

210. Crop improvement is possible through:
a) Judicious combination of selection, introduction and hybridisation
b) Selection
c) Scientific improvement of cultivated plants
d) Introduction

211. Maize grain is rich in:
a) Niacin b) Thiamine c) Tryptophan d) Lysine

212. In callus culture, roots can be induced by the supply of
a) Auxin b) Cytokinin c) Gibberellin d) Ethylene

213. Semi-dwarf varieties of rice were developed from
I. IR-8 II. Taichung Native-1

III. Jaya IV. Sonalika
Choose the correct options
a) I and II b) II and III c) I and III d) III and IV

214. Percentage of proteins in the fish meal is:
a) 15-20% b) 25-50% c) 40-50% d) 55-70%

215. India's wheat yield revolution in 1960s was possible primarily due to
a) Increased chlorophyll content
b) Mutations resulting in plant height reduction
c) Quantitative trait mutations
d) Hybrid seeds

216. The plant from which chewing gum is made:
a) $Achrassaptoa$ b) $Euphorbiasplendens$
c) $Dalbergiasissoo$ d) $Buteafrondosa$

217. Quinine is obtained from bark of:
a) $Cinchona$ b) $Atropabelladona$ c) $Magniferaindica$ d) $Cedrellatoona$

218. The largest land animal is:
a) Camel b) Elephant c) Rhino d) Python

219. The three major carps.—$Cattla$, $Labeo$, and $Cirhinus$ grown in the same pond are due to:
a) There is no competition among them for the food material
b) Their feeding habits are different
c) They live in different habitats
d) None of the above

220. Silkworm spins its cocoon:
a) From inside to outside b) Outside to inside
c) Random d) Inside

221. Single cell proteins refers to
a) A specific protein extracted from pure culture of single type of cells
b) Sources of mixed proteins extracted from pure or mixed culture of organisms or cells
c) Proteins extracted from a single cell
d) A specific protein extracted from a single cell

222. Potato and tomato are native of:
a) Canada b) North America c) South America d) China

223. Which of the following is not an important characteristic of the green revolution?
I. Mechanised agriculture
II. Hybrid seeds
III. Slash and burn
Which of the above are correct?
a) Only I b) Only II c) Only III d) I and III

224. A hybrid where the cytoplasm of two parent cell are fused by retaining only one parental nucleus is called
a) Asymmetric somatic hybrid b) Cytoplasmic hybrid
c) An interbreed d) Symmetric somatic hybrid

225. Fibres are made of:
a) Parenchyma b) Chlorenchyma c) Sclerenchyma d) Collenchyma

226. The deficiency of essential micronutrients specially iron, iodine, zinc and vitamin-A in food
I. increases risk for disease
II. reduces mental ability
III. reduces life span
Choose the correct option
a) I, II and III b) I and III c) Only d) I and II

227. For producing protoplasts from pant cells, which of the following are required?

a) Amylase and pectinase b) Cellulase and proteinase
c) Cellulase and pectinase d) Cellulase and amylase

228. The plants produced from tissue culture are genetically identical to the original plant from which they are grown so they are called
a) Somaclones b) Clones c) Para clones d) None of these

229. Which of the statement about breeding is wrong?
a) By inbreeding purelines cannot be evolved
b) Continued inbreeding, especially close inbreeding reduces fertility and productivity
c) Cross-breeding allows desirable qualities of two different breeds to be combined
d) Inbreeding exposes harmful recessive genes that are eliminated by selection

230. Two temperate cereals, sometimes cultivated at high altitude in the tropics, are:
a) $Avenasativa$ and $Secalecereale$ b) $Zeamays$ and $Eleusinecoracana$
c) $Panicummilaceum$ and $Coixlachrayma$ d) $Sorghumbicolour$ and $Panicummilaceum$

231. Gambusia is a:
a) Predator on mosquito larvae b) Pest of fishes
c) Parasite on crab d) Pathogenic protozoan

232. Sugar obtained from sugarcane is:
a) Fructose b) Glucose c) Sucrose d) Galactose

233. When cross is made between two species of the same genus, then the cross is known as
a) Intraspecific hybridization b) Interspecific hybridization
c) Intergeneric hybridization d) Intervarietal hybridization

234. Vegetables are chief source of:
a) Fats and minerals b) Fats and vitamins
c) Minerals and vitamins d) Proteins and vitamins

235. The entire collection having all the diverse alleles for all genes in a given crop is called
a) Gene collection b) Germ collection c) Germplasm collection d) Plasma collection

236. The chances of catching bird flu from a properly cooked (above 100°C) chicken and eggs are
a) Very high b) High c) Moderate d) Nil

237. Undifferentiated mass of plant cells grown on nutrient medium, is called
a) Callus b) Bud c) Clone d) Scion

238. The totipotency of a cell refers to the
a) Flowering in a culture medium
b) Development of fruit from a flower in a culture medium
c) Development of an organ from a cell in culture medium
d) Development of all tissues of all kinds from a cell in a culture medium

239. A milk-like preparation can be made from the seeds of:
a) Gram b) Soyabean c) Grapes d) Barley

240. Increase in food production is necessary because of:
a) The better land available b) The population increase
c) The increased money power d) The better irrigation facilities

241. Silk glands are modified:
a) Salivery glands b) Anal glands c) Colleterial glands d) Mushroom glands

242. Consider the following statements
I. Solid stem in wheat exhibits non-preference by stem sawfly
II. In cotton, smooth leaf and absence of nectar repel bollworms
III. In maize, high aspartic acid, low nitrogen and sugar content protect them from stem borers
Which of the statements given above are correct?
a) I, II and III b) I and II c) I and III d) II and III

243. Arhenotoky is a type of:
a) Parthenogenesis found in honey bees, wasps and ants

b) Parthenogenesis found in every insect
c) Parthenogenesis found in mosquitoes
d) Parthenogenesis found in butterflies

244. Zebu cattle is:
a) Water Buffalo b) Indian Buffalo c) Cow d) Sheep

245. Mule is produced from a cross between ...A... and ...B... Here A and B refers to
a) A-female horse; B-male donkey b) A-male horse; B-female donkey
c) A-male horse; B-female horse d) A-male donkey; B-female donkey

246. $Triticumaestivum$, the common breed of wheat is
a) Triploid with 21 chromosomes b) Tetraploid with 28 chromosomes
c) Hexaploid with 42 chromosomes d) Diploid with 14 chromosomes

247. In ..... male and female animals of two different related species are mated
a) Random breeding b) Artificial insemination
c) Controlled breeding d) Interspecific hybridisation

248. Central Silk Research and Training Institute (CSRTI) is located at:
a) Assam b) Bahrampur
c) Tarai region d) Shanthivials (Mysore)

249. Water Buffalo is:
a) European breed of buffalo that prefers living in water for most of the day
b) Buffalo like animal living in rivers
c) Llama
d) Buffalo

250. In lac insect, lac is produced from:
a) Abdominal glands b) Salivary glands
c) Skin glands of abdomen d) None of the above

251. Mode of nutrition of explant before organogenesis is
a) Photosynthetic b) Autotrophic c) Heteromorphic d) Heterotrophic

252. Most commercial silkworm strain is:
a) Uni-voltine b) Vi-voltine c) Multi-voltine d) All of these

253. Which among the following is the real product of honey bee?
a) Pollen b) Bee wax c) Honey d) Propolis

254. One of the alternate sources of protein for animal and human nutrition is
a) Single cell protein b) Proteomix c) Double cell protein d) All of these

255. The fibre crop occupying the largest area in India is as under:
a) Jute b) Flax c) Cotton d) Simbal

256. On the basis of unity, Nagapuri buffaloes are categorised as:
a) Grazers b) Dual purpose c) Draught cattle d) Milkers

257. The fruits of the plants which yield oil and fibres:
a) $Phoenixsylvestris$ b) $Arecacatechu$ c) $Metroxylonsafus$ d) $Cocosnucifera$

258. In mutation breeding, mutation are induced by using radiation like
a) Gamma b) X-rays c) UV-rays d) All of these

259. The genetic ability of a plant to prevent pathogen from causing disease is called
a) Resistance b) Prevention c) Pathology d) None of these

260. The Indian carp is:
a) Scoliodon b) Labeo c) Torpedo d) Pristis

261. Poultry includes:
a) Fowl, duck, tortoise and turkey b) Fowl, duck, pigeon and tortoise
c) Duck, fowl, tortoise and turtle d) Fowl, duck, turkey and pigeon

262. Phytotron is
a) A controlled condition chamber b) A leaf culture process
c) A special culture of plants d) A root culture process

263. MOET stands for
a) Multiple Ovulation Embryo Transfer technology
b) More Ovulation Embryo Transfer technology
c) Multiple Ovulation Embryo Test technology
d) None of the above

264. *Nosemiasp*. a protozoan produces diseases in:
a) Silk moth
b) Honey bee
c) Both silk moth and honey bee
d) Lac insect

265. Colchicine brings about:
a) Gene mutations
b) Chromosome aberrations
c) Quick replication
d) Duplication of chromosomes

266. Central Sugarcane Breeding Research Institute is situated at:
a) Coimbatore b) Lucknow c) Delhi d) Bhopal

267. Silk glands of silkworm are modified:
a) Crop glands b) Salivary glands c) Gastric glands d) Intestinal glands

268. Consider the following statements
I. The honey bees are pollinators of many crop species such as sunflower, *Brassica*, apple and pear
II. Keeping beehives in crop fields during flowering period increases both crop yield and honey yield
III. A successful bee keeping requires management of beehives during different seasons
Which of the statements given above are correct?
a) I, II and III b) I and II c) II and III d) I and III

269. Which of the following diseases in poultry is caused by nutritional deficiency?
a) Perosis b) Fowl pox c) Coryza d) Aspergillosus

270. Hereditary variations can be got with the help of:
a) X-rays b) DDT c) Auxin d) Gibberellin

271. Eri silk is produced by:
a) *Bombyxmori* b) *Attacusricini* c) *Anthenearoylei* d) *Antheneapaphia*

272. Consider the following statements
I. Semen is preserved for artificial insemination by heating
II. Most common bee species reared in India is *Apisindica*
III. Example of interspecific hybridization is mule
Which of the statements given above is/are not correct?
a) Only I b) Only II c) I and II d) II and III

273. Genetic diversity of agricultural crops crops is threatened by:
a) Extensive intercropping
b) Intensive use of fertilizers
c) Introduction of high yielding varieties
d) Intensive use of biopesticides

274. In ..... high milk giving breeds of females and high quality meat giving bulls have been breed successfully to obtain a better breed in short time
a) MOET
b) Artificial insemination
c) Cross-bree ding
d) Induced mutation

275. The botanical name of popcorn is:
a) *Zeamays* var. everta
b) *Zeamays* var. tunicata
c) *Zeamays* var. indentata
d) *Zeamays* var. amylacea

276. Most common honey bee species in India
a) *Apis indica* b) *Apis florea* c) *Apis mellifera* d) *Apis dorsata*

277. Pathogen free plants are obtained from:
a) Callus culture b) Embryoid culture c) Shoot apex culture d) Root apex culture

278. When breeding is between different breeds, it is called
a) Inbreeding b) Outbreeding c) Outcrossing d) Cross breeding

279. The new sugar cane varieties had the qualities like
I. high yield
II. thick stem
III. high sugar content
IV. ability to grow in North India
Choose the correct option
a) I, II and III b) II, III and IV c) I, II and IV d) I, II, III and IV

280. Single cell proteins provide food rich in
I. protein
II. minerals
III. fats
IV. carbohydrates and vitamins
Choose the correct option
a) I and III b) II, III and IV c) I, III and IV d) I, II, III and IV

281. Breeding crops for improved nutritional quality is referred to as
a) Biomagnification b) Biome c) Biofortification d) Biomining

282. Maize grain is deficient in:
a) Tryptophan and lysine b) Niacin and thiamine
c) Lysine and thiamine d) Tryptophan and thiamine

283. Crop plants grows in monoculture are:
a) Low in yield b) Characterised by poor root system
c) Free from intraspecific competition d) Highly prone to pests

284. Cassava is a:
a) Stem vegetable b) Root vegetable c) Leaf vegetable d) Flower vegetable

285. Earliest animal to be domesticated was:
a) Goat b) Dog c) Horse d) Cat

286. Rinderpest is the disease of:
a) Cattle b) Poultry c) Fish d) Camel

287. Composite fish farming is called:
a) Polyculture b) Pisciculture c) Monoculture d) None of these

288. Embryo culture is employed in:
a) Clonal propagation b) Induction of somaclonal variations
c) Overcoming hybridisation barriers d) Developing virus free plants

289. The yellow colour of cow milk is due to the presence of
a) Carotene b) Albumin c) Casein d) Lactose

290. Main composition of lac is:
a) Glue, pigment and sugar b) Wax, pigment and glue
c) Resin, pigment, wax and glue d) Resin, sugar and wax

291. Quite often pulse-crops are not manured with nitrogenous fertilizers. It is so because:
a) These do not require nitrogen b) These do not need nitrates or nitrites
c) These have nodulated roots d) These do not have nodulated roots

292. Fisheries includes rearing, catching, sellings, of
a) Fishes b) Molluscs c) Crustaceans d) All of these

293. The wax gland in honey bee is found in
a) Worker and queen b) Queen c) Drons d) Worker

294. Inbreeding is
a) Crossing between two unrelated species b) Crossing between two closely related individuals within the same breed
c) Crossing between different breeds d) None of the above

295. When the breeders wants to incorporate desired characters into the crop plants, they should
I. increase yield and improve

II. increased tolerance to salinity
III. resistance to pathogen viruses, fungi and bacteria
IV. increased tolerance to insect pests
Choose the correct option
a) I and II b) I, II and III c) II, III and IV d) All of these

296. Main protein type found in egg white is:
a) Ovalbumin b) Canalbumin c) Phosvitin d) Lipovitellin

297. The process of fusion of protoplast of somatic cells obtained from different varieties or species of plant on a suitable nutrient medium $invitro$ to develop a somatic hybrid is called
a) Somatic hybridization b) Cross hybridization
c) Intravarietal hybridization d) Interspecific hybridization

298. Pisciculture is rearing and production of
a) Fishes b) Birds c) Reptiles d) Cattles

299. Which factors are responsible for development of disease in a plant?
I. Susceptible plant
II. Aggressive pathogen
III. Excess amount of fertilizer
IV. Conductive environment
Choose the correct option
a) I, II and III b) I, II and IV c) II, III and IV d) I, III and IV

300. Which of the following is not a marine fish?
a) Hilsa b) Catla c) Pomfret d) Mackerel

IMPORTANT PRACTICE QUESTION SERIES FOR NEET EXAM – 1 (ANSWERS)

1)	**a**	**2)**	**b**	**3)**	**d**	**4)**	**d**
5)	**c**	**6)**	**c**	**7)**	**a**	**8)**	**c**
9)	**d**	**10)**	**a**	**11)**	**c**	**12)**	**b**
13)	**c**	**14)**	**c**	**15)**	**d**	**16)**	**c**
17)	**c**	**18)**	**d**	**19)**	**c**	**20)**	**a**
21)	**a**	**22)**	**d**	**23)**	**c**	**24)**	**b**
25)	**a**	**26)**	**d**	**27)**	**d**	**28)**	**a**
29)	**c**	**30)**	**c**	**31)**	**c**	**32)**	**b**

33)	**a**	**34)**	**d**	**35)**	**a**	**36)**	**b**
37)	**b**	**38)**	**c**	**39)**	**a**	**40)**	**d**
41)	**b**	**42)**	**a**	**43)**	**d**	**44)**	**c**
45)	**a**	**46)**	**d**	**47)**	**d**	**48)**	**b**
49)	**a**	**50)**	**b**	**51)**	**d**	**52)**	**d**
53)	**b**	**54)**	**a**	**55)**	**a**	**56)**	**a**
57)	**a**	**58)**	**b**	**59)**	**a**	**60)**	**b**
61)	**b**	**62)**	**a**	**63)**	**a**	**64)**	**c**
65)	**c**	**66)**	**a**	**67)**	**c**	**68)**	**d**
69)	**a**	**70)**	**d**	**71)**	**b**	**72)**	**c**
73)	**c**	**74)**	**c**	**75)**	**a**	**76)**	**c**
77)	**d**	**78)**	**c**	**79)**	**a**	**80)**	**d**
81)	**a**	**82)**	**c**	**83)**	**b**	**84)**	**c**
85)	**b**	**86)**	**c**	**87)**	**c**	**88)**	**c**
89)	**d**	**90)**	**b**	**91)**	**d**	**92)**	**a**
93)	**b**	**94)**	**c**	**95)**	**d**	**96)**	**c**
97)	**a**	**98)**	**d**	**99)**	**b**	**100)**	**d**

1 **(a)**
Aquaculture is the farming of aquatic organisms such as fish, crustaceans, mollusc and aquatic plants

2 **(b)**
Differentiation of organs and tissues in a developing organism is associated with the differential expression of the genes. In regulation of gene expression, the chromosomal proteins plays an important role. The chromosomal proteins plays an important role. The chromosomal proteins are of two types-histones and non-histones. The regulation of the gene expression involves an interaction between histones and non-histones

5 **(c)**
Mating between male and female animals of two different species is called interspecific hybridization. The Mule is the best example of a successful cross between two different species, the female horse and the male donkey

7 **(a)**
Bee wax is a product of industrial importance. It is used in the manufacture of cosmetics, shaving creams and polishes

8 **(c)**
In 1963 the increase in crop production was due to introduction of semi-dwarf varieties of wheat. Semi-dwarf wheat was developed by Norman E. Borlaug at International Centre for Wheat and Maize Improvement in Mexico. Semi-dwarf varieties of rice were developed from IR-8 (developed at International Research Institute Phillipines) and Taichung Native-1 (developed in Taiwan)

10 **(a)**
Evalution. of germplasm is carried out to identify plants with desirable combination of characters

14 **(c)**
S. barberi was grown in North India, had poor sugar content and yield
S. officinarum did not grown in North India, had thicker stem and higher sugar content

15 **(d)**
Three billion people suffer form protein, vitamins, and micronutrient deficiencies or hidden hunger because these people can not afford to buy enough vegetable, fruits, legumes, fish and meat.

Their food does not contain essential micronutrients specially iron, iodine, zinc and vitamin-A. Breeding of crops with higher levels of vitamins, minerals or higher protein and healthier fats is called biofortification. This is the most practical aspect to improve the health of the people

20 **(a)**

In protoplasm fusion the enzyme required are cellulose, hemicellulose and pectinase

22 **(d)**

All statements are correct

23 **(c)**

In callus culture, cell division in explant forms a callus. Callus is irregular unorganized and undifferentiated mass of actively dividing cells. Darkness and solid medium gelled by agar stimulates callus formation. The culture medium contains growth regulators auxin 2, 4-D and often a cytokinin like BAP. Both of these growth regulators stimulate meristematic property in callus

28 **(a)**

The plant cell without the cell wall is called protoplast. Naked protoplasts surrounded only by plasma membranes

29 **(c)**

Cellular totipotency, is the ability of a cell to give rise to a complete plant, when cultured in a suitable culture medium at appropriate temperature and aeration condition

30 **(c)**

Continued inbreeding usually reduces fertility of animals and even their productivity. This condition is called inbreeding depression. Such kind of inbreeding depression in selected animals of the breeding population can be over come by mating them with unrelated superior animals of the same breed. Such type of mating usually helps to restore fertility and yield

31 **(c)**

Mating between unrelated members of the same breed is called out crossing. However, the mating partners should not have common ancestors on either side of their pedigree up to 4-6 generation. Out crossing is usually preferred in animals having poor productivity of milk, poor growth rate and suffering from inbreeding depression

32 **(b)**

Mutation is a phenomenon by which genetic variation is achieved through changes in the base sequences with in genes, which creates a new character or trait absent in parental generation. Mutation which occur naturally are called spontaneous mutations and those which are induced artificially are called induced mutations. The application of induced mutation for crop improvement is called mutation breeding

33 **(a)**

Breeding is carried out by the conventional breeding techniques or by mutation breeding. The conventional method of breeding for disease resistance is that of hybridization and selection. Mutation breeding is defined as the process of breeding by artificially inducing mutations using chemicals (like aniline) or radiations like (gamma radiation). This radiation breeding is nothing but the step of Mutation breeding

34 **(d)**

Livestock are domesticated animals raised in an agricultural setting to produce commodities such as food, fibre and labour, $e.g.$,sheep, pigs, camels, cattle and buffaloes, etc.

36 **(b)**

Breeding involves crosses between useful animal breeds aiming to increase the yield of animals and to improve the desirable qualities of the produce

38 **(c)**

Isinglass is produced from the air bladder of cat fishes and carps. Isinglass is principally used for clarifying wines, beer and making purse, honey, comb, book and ribbon. The isinglass prepared in Russia is of the best quality in the world

39 **(a)**

The enzyme used for isolation of single cell from explant cell is pectinase. The cell walls of cell are digested by enzymes like pectinase and cellulase to expose the naked protoplasts

40 **(d)**

Dairying is the management of animals, which provide milk and its products for human consumption

42 **(a)**

One of the examples of cross breeding is the production of a new breed of sheep, called Hisardale. This breed was developed in Punjab by crossing Bikaneri ewes and marino rams

43 **(d)**

Economic importance of fish includes

Fish as Food The fish flesh is an excellent source of protein has very little fat, carries a good amount of minerals and vitamins-A and D and rich in iodine

Source of Income Millions of fisherman and farmers, particularly in coasted states, are engaged in this business which has an important place in Indian economy

Aesthelic ValueA large number of fish are cultured in aquarium for their beauty and graceful movements

44 **(c)**

Lysine and tryptophan are essential amino acid. Our body can not synthesis atleast 8 amino acid (10 in children) which must be provided in the diet from outside. These eight amino acids are called essential amino acids. Thus, these essential amino acids, when present in the protein of our diet in sufficient amount, constitute protein quality

45 **(a)**

In mung bean resistance to yellow mosaic virus and powdery mildew were introduced by mutations

46 **(d)**

Conventional breeding method is carried out by the following steps

(i) Selection and screening of germplasm for disease resistance

(ii) Hybridisation of selected plants

(iii) Testing and release of new varieties into the market

Mutation breeding is carried out by the following steps

1. Inducing mutations in plants
2. Screening the plant for resistance
3. Selecting the desirable plant for multiplication for breeding

47 **(d)**

Breeding involves crosses between useful animal breeds, aiming to increase the yield of animals and to improve the desirable qualities of the produce

49 **(a)**

The outcome of increased resistance power in crops enhances food production. This also help to reduce the dependency on use of fungicides and bacteriocides

51 **(d)**

Science of altering the genetic pattern of plants in order to increase their value and utility for human welfare is called plant breeding. Aim of plant breeding are to grow disease free, high yielding and early maturing varieties

53 **(b)**

Improved varieties of wheat suitable for Indian environment have been developed by hybridization and mutation

54 **(a)**

Bee wax.

Bee wax is a product of industrial importance. It is used in the manufacture of cosmetics, shaving creams and polishes

56 **(a)**

Fishery is a kind of industry, which is concerned with the catching, processing or selling of fish, shell fish (prawns and molluscs) or other aquatic animals such as crabs, lobster, edible oyester, etc.

57 **(a)**

The embryo which develops from somatic cell is called somatic embryo

59 **(a)**

Plant breeding is the purposeful manipulation of plant species in order to create plant types that are better suited for cultivation give better yields and are disease resistant

60 **(b)**

Rhode Island Red is a breed of domestic fowl, originated in America, characterized by a dark raddish-brown plumage and the production of brown eggs

63 **(a)**

Aseel is an indigenous breed. Aseel is one of the best table bird but it cannot be raised for commercial purposes because of its poor growth and low fertility. The original aseel is a medium sized aggressive bird commonly known as the Reza or the Tikra. Pure specimens of this breed are now rare and are available with some fanciers in the parts of AP, Karnataka and UP

64 **(c)**

The bee wax obtained from the hives of honey bees is used in many industries for the preparation of cosmetics and polishes

65 **(c)**

Both (a) and (b).

In 1963 the increase in crop production was due to introduction of semi-dwarf varieties of wheat. Semi-dwarf wheat was developed by Norman E. Borlaug at International Centre for Wheat and Maize Improvement in Mexico. Semi-dwarf varieties of rice were developed from IR-8 (developed at International Research Institute Phillipines) and Taichung Native-1 (developed in Taiwan)

75 **(a)**

In tissue culture, shoot regeneration is promoted by cytokinin, and root generation is promoted by auxin like NAA (Naphthalene Acetic Acid). An excess of auxin promotes root regeneration, whereas that of cytokinin promotes shoot regeneration. Roots regenerates from the lower end of these shoots to give complete plantlets

76 **(c)**

During the last two decades due to impact of blue revolution there has been a rapid global expansion of commercial aquaculture and it is now contribute significantly to the total global sea food production

78 **(c)**

Keeping beehives in crop fields during flowering period increases pollination efficiency and improves the yield, which is beneficial to both from the point of view of crop yield and honey yield

80 **(d)**

More than 840 million people in the world do not have adequate food to meet their daily requirements. Three billion people suffer from protein, vitamins and micronutrient deficiencies or hidden hunger because these people can not afford to buy adequate

vegetable, fruits, legumes, fish and meat

82 **(c)**

International rice Research Institute is situated of Manila (Philippines) and Indian Rice Research Institute situated at Cuttack

83 **(b)**

Pomato is somatic hybrid between potato and tomato and Bomato is somatic hybrid between brinjal and tomato. Somatic hybrid are also produced between rice and carrot

84 **(c)**

Apiculture or bee culture is the rearing of honey bees by culturists in different parts of the world to obtain honey and bees wax on commercial scale. Both the products are used in medicines, cosmetics and various other industries. Now-a-day bee venom is also collected on commercial scale for the treatment of snake bite, arthritis and many other diseases

85 **(b)**

Somatic hybridization or parasexual hybridisation involves the fusion of isolated protoplasts of two different species

91 **(d)**

Animal husbandry is the agricultural practice of feeding, breeding and raising animal livestock whose primary purpose is to provide meat and milk. Meat animals include beef, cattle, sheep and meat goats. Milk animals include cows and buffaloes.

Poultry is a class of domesticated fowl used for food and for their eggs. Fisheries is also an important source of animal food, which is concerned with rearing, catching and selling of fish, molluscs (shell fish) and crustaceans prawns, crabs, etc.

92 **(a)**

The agents which are used to induce mutation are called mutagens. Some common mutagens are radiation UV-rays, gamma rays, etc. Chemical – aniline, nitrous acid, mustard gas, etc.

94 **(c)**

In our country, poultry mainly means chickens domesticated for eggs and meat Cow milk is slightly yellow in colour due to presence of carotene, which is precursor for yellow colour in cow milk is in the form of vitamin-A

97 **(a)**

The most common egg-type variety used for commercial production through out the world is leghorn

98 **(d)**

8-32 celled embryo.

MOET is program for herd improvement in animal like cattle sheep, rabbits, buffaloes, mare, etc.

A cow is administered hormones with FSH-like activity to induce follicular maturation and supper ovulation

The cow produces 6-8 eggs instead of one egg produced normally

It is now, either mated with an elite bull or artificial insemination is carried out

When the fertilized eggs attain 8-32 cells stage, they are non-surgically removed and transferred to a surrogate mother

The genetic mother can now be again super-ovulated

IMPORTANT PRACTICE QUESTION SERIES FOR NEET EXAM – 2 (ANSWERS)

1)	a	2)	b	3)	a	4)	c
5)	d	6)	c	7)	c	8)	a
9)	d	10)	a	11)	b	12)	a
13)	a	14)	d	15)	c	16)	a
17)	a	18)	b	19)	a	20)	b
21)	b	22)	c	23)	c	24)	b
25)	c	26)	a	27)	c	28)	a
29)	b	30)	a	31)	a	32)	c
33)	b	34)	c	35)	c	36)	d
37)	a	38)	c	39)	b	40)	b
41)	a	42)	a	43)	a	44)	c
45)	a	46)	c	47)	d	48)	d
49)	d	50)	c	51)	d	52)	b
53)	d	54)	a	55)	c	56)	d
57)	d	58)	d	59)	a	60)	b
61)	d	62)	a	63)	a	64)	c
65)	d	66)	a	67)	b	68)	a
69)	a	70)	a	71)	b	72)	d
73)	c	74)	a	75)	a	76)	a
77)	c	78)	b	79)	d	80)	d
81)	c	82)	a	83)	d	84)	b

85)	**b**	**86)**	**a**	**87)**	**a**	**88)**	**c**
89)	**a**	**90)**	**c**	**91)**	**c**	**92)**	**d**
93)	**d**	**94)**	**d**	**95)**	**d**	**96)**	**a**
97)	**a**	**98)**	**a**	**99)**	**b**	**100)**	**b**

1 **(a)**

Selection is the oldest method of crop improvement

The act or process of mating organisms of different varieties or species to create a hybrid is called hybridization

An organism which possesses more than two sets of chromosomes is called polyploidy, *e. g.*, *Triticale* is the first man made crop derived by crossing wheat and rye

The application of induced mutations for crop improvement is called mutation breeding

Our conventional method of crop improvement involve the whole genomes of plants. However, the latest genetic engineering involves transfer of one or more genes from one plant to another. The plant is which a foreign genes have been introduced is called transgenic plant

3 **(a)**

The maintenance of hives of honey bees for the production of honey is termed bee keeping or apiculture. Bee-keeping is practiced in any area where there is availability of sufficient bee pasture of some wild shrubs, fruit orchards and cultivated crops

5 **(d)**

Easy to Grow Microbes can be grown on materials like waste water from potato processing plants, straw, molasses, animal manure and sewage

(i) **Nutrient Rich** Provide food rich in protein, minerals, fats, carbohydrates and vitamin

(ii) **High Yield** Due to high rate of biomass production and growth, large amounts are produced

6 **(c)**

Cultivation of axillary or apical shoot meristem is known as meristem culture. It involves the development of an already existing shoot meristem and subsequently the regeneration of adventitious roots from the developed shoots. Meristem culture can be used for rapid clonal multiplication, production of virus free plants, germplasm conservation and production of transgenic plants

7 **(c)**

Sonalika and Kalyan Sona.

High yielding and disease resistant wheat varieties were introduced in India in 1963, *e. g.*,Sonalika and Kalyan Sona

9 **(d)**

Plant breeding programme designed to increase the vitamins, minerals, higher protein and heat their fat content in crop yields is called biofortification

12 **(a)**

In callus culture, shoot and root regenerations are controlled, generally, by auxin-cytokinin balance. Usually, the excess of auxin (such as Naphthalene acetic. Acid or NAA), promotes root regeneration, whereas that of cytokinin (like BAP) promotes shoot regeneration

13 **(a)**

Semi-dwarf varieties of rice were developed from IR-8 and Taichung Native-1

15 **(c)**

India's wheat yield revolution in the 1960s was possible primarily due to the quantitative trait mutations

21 **(b)**

Single cell protein refers to sources of mixed proteins extracted from pure or mixed culture

of organisms or cell

23 **(c)**

The introduction of high yielding varieties of seeds and the increased use of fertilisers and irrigation are known collectively as the green revolution, which provided the increase in production needed to make India self sufficient in food grains, thus improving agriculture in India

24 **(b)**

When the nuclear genetic material of one of the parents is eliminated through the cytoplasm from both the parents are retained, such a fusion product is called hybrid (cytoplasmic hybrid or heteroplast)

26 **(a)**

The deficiency of essential micronutrients specially iron, iodine, zinc and vitamin-A in food increases the risk for diseases, reduces mental ability and life span

28 **(a)**

The method of producing thousands of plants through tissue culture is called micropropagation. Each of these plants will be genetically identical to the original plant from which they were grown, *i.e*., they are somaclones. Many important food plants like tomato, banana, apple, etc., have been produced on commercial scale using this method

35 **(c)**

Germplasm is the sum to total of all the alleles of the genes present in a crop and its related species. The entire collection of plants/seeds having all the diverse alleles for all genes in a given crop is called germplasm collection. A good germplasm collection is essential for a successful breeding program

36 **(d)**

The chances of catching bird flu from a property cooked chicken and egg can be nil. The major causes of diseases in the poultry birds are overcrowding, dampness, insufficient light, unhygienic environmental condition and dirty air

37 **(a)**

Callus is an unorganized and undifferentiated mass of actively plant cells grown on culture medium from an explant. In 1939 White, Gautheret and Nobecourt independently succeeded in raising callus

38 **(c)**

The term 'totipotency' refers to the development of an organ from a cell in a culture medium

42 **(a)**

All given statements are correct

45 **(a)**

A-Female horse; B-Male donkey.

Mating between male and female animals of two different species is called interspecific hybridization. The Mule is the best example of a successful cross between two different species, the female horse and the male donkey

46 **(c)**

A natural mutant of *T. turgidum* is represented by tetraploid *T. durum* ($4n = 28$) which was crossed with diploid wild grass, *Aegilops squarrosa* ($2n = 14$) under natural conditions. The resultant triploid hybrid was sterile which on doubling of chromosomes produced the hexaploid bread wheat. *Triticum aestivum* ($6n = 42$)

47 **(d)**

Interspecific hybridization.

Mating between male and female animals of two different species is called interspecific hybridization. The Mule is the best example of a successful cross between two different species, the female horse and the male donkey

51 **(d)**

An explant is the excised piece of tissues or organs used for culture. An explant before organogenesis is heterotrophic which grows on a synthetic medium and sucrose is the most commonly used carbon source

54 **(a)**

Production of edible proteins on a large scale by means of microorganisms for animal and human nutrition is called single cell protein

58 **(d)**

All of these.

Mutation breeding is defined as the process of breeding by artificially inducing mutations using chemicals (like aniline, nitrous acid mustard gas, etc.) or radiation (like gamma rays, X-rays, UV rays, etc.)

59 **(a)**

The genetic ability of a plant to prevent pathogen from causing disease is called resistance

62 **(a)**

Phytotron is a chamber, in which the plants can be grown in controlled condition for the study of the effects of environmental conditions on their growth

63 **(a)**

Sometimes other improved techniques are carried out to ensure successful production of hybrids. One such technique is Multiple Ovulation Embryo Transfer Technology (MOET) for herd improvement in animals like cattle, sheep, rabbits, buffaloes. In this high milk yielding breeds of female have been breed with high quality meat yielding bull to increase hard size in lesser time

68 **(a)**

Usually the most common places for keeping beehives are courtyard, on the verandah of the house, on the roof, in the crop fields during flowering period, etc.

The beehives when kept in the fields of sunflower, *Brassica,* apple and pear, increase the pollination efficiency of flowering plants and improve the yields. A successful bee keeping requires management of beehives during different seasons

72 **(d)**

The semen may be used immediately or can be frozen. Frozen bovine semen is a method of preserving semen for future artificial insemination, even after the death of the donor

74 **(a)**

MOET This technique has been successfully used for cattle rabbits, sheep, cows, buffaloes, mares etc. Animal breeders are hopefully looking forward to increase the herd size in a short time by using this technique

76 **(a)**

The most common species of honey bee is *Apis indica.* The exotic varieties are *Apis mellifera* (An Italian variety) and *Apis adamsoni.* At present, the Italian variety *Apis mellifera* is used in apiaries for large scale production of honey and wax

78 **(b)**

Outbreeding.

Rearing of honey bees is practiced for obtaining honey and wax. Honey is used as a food of very high nutritive value, while bees wax is used in industry to prepare cosmetics and polishes

79 **(d)**

Saccharum barberi and *S. officinarum* these two species were crossed to have sugar cane varieties combining the desirable qualities of high sugar, high yield, thick stems and ability to grow in the sugar cane belt of North India

80 **(d)**

All of these.

Easy to Grow Microbes can be grown on materials like waste water from potato processing plants, straw, molasses, animal manure and sewage

(i) **Nutrient Rich** Provide food rich in protein, minerals, fats, carbohydrates and vitamin

(ii) **High Yield** Due to high rate of biomass production and growth, large amounts are produced

89 **(a)**

The yellow colour of cow milk is due to the carotene, which is precursor for yellow colour in cows milk and it is in the form of vitamin-A

92 **(d)**

Fisheries is an industry, where fish are reared for commercial purposes. Fisheries include rearing, catching, selling, etc., of fish, molluscs (shell-fish) and crustaceans (prawns, crabs, etc.)

93 **(d)**

The wax gland in honey bee is found in workers. The wax gland complex of the honey bee worker consists of 3 cells types, epithelial cells, oenocytes and adipocytes, which act synergistically to secrete wax, a complex mixture of hydrocarbons, fatty acids and proteins (lipophorins)

94 **(d)**

Inbreeding refers to mating of more closely related individuals within the same breed for 4-6 generations

95 **(d)**

All the points given in the question are required to get the desired character into the crop

97 **(a)**

The process of fusion of protoplast of somatic cells obtained from different varieties or species of plant on a suitable nutrient medium *in vitro* to develop a somatic hybrid is called somatic hybridization

98 **(a)**

Pisciculture is the breeding, hat ching and rearing of fish under controlled condition

99 **(b)**

Susceptibility, aggressive pathogen and conductive environment are responsible for development of disease in a plant

100 **(b)**

Catla, rohu, common carp are fresh water fishes