PLANT SCIENCES 2009

1. Which of the following is a sense codon?
    a. UAA
    b. UAG
    c. UGA
    d. AUG
2. Heterosis over commercial variety is known as:
    a. Relative heterosis
    b. Standard heterosis
    c. Luxuriance
    d. Heterobeltiosis
3. A trisomic with an extra isochromosome is known as:
    a. Isotrisomic
    b. Secondary trisomic
    c. Primary trisomic
    d. Tertiary trisomic
4. In case of inhibitory gene action, the F_2 ratio is modified to:
    a. 13:3
    b. 12:3:1
    c. 9:3:4
    d. 9:6:1
5. Nucleoside includes:
    a. Base, sugar and phosphate
    b. Base and sugar
    c. Base and phosphate
    d. Sugar and phosphate
6. Vitamin C is:
    a. Riboflavin
    b. Ascorbic acid
    c. Calciferol
    d. Bictin
7. Tag of which colour is issued for Foundation seed?
    a. Blue
    b. Yellow
    c. White
    d. Red
8. Selection is effective for those traits which are governed by:
    a. Additive genes
    b. Dominant genes

c. Epistatic genes
d. None of the above

9. In a population, gene frequencies remain constant when there is:
    a. Inbreeding
    b. Random mating
    c. Outbreeding
    d. Selective mating
10. The number of stamens in a rice flower is:
    a. 6
    b. 4
    c. 2
    d. 8
11. The jumping gene was first discovered by:
    a. Johannsen
    b. Morgan
    c. Barbara McClintock
    d. Benzer
12. Which of the following is a weedicide?
    a. IAA
    b. NAA
    c. IPA
    d. 2,4-D
13. The presence of apical bud inhibits the growth of lateral buds, this phenomenon is known as:
    a. Apical dominance
    b. Vernalization
    c. Photoperiodism
    d. Etiolation
14. Prof. K. C. Mehta is credited for his work on:
    a. Early blight
    b. Late blight
    c. Rust
    d. Mildew
15. The growth of the plant parts towards earth is called:
    a. Hydrotropism
    b. Phototropism
    c. Geotropism
    d. Thigmotropism
16. The ‘red drop’ phenomenon was reported by:
    a. Calvin

b. Emerson
c. Blackman
d. Hill

17. Galvin received the Nobel Prize in 1961 for the study of:
    a. Photophosphorylation
    b. Photolysis of water
    c. Path of carbon in photosynthesis
    d. Law of limiting factors
18. Varalaxmi cotton hybrid is derived from the cross between:
    a. *G. hirsutum x G. barbadense*
    b. *G. hirsutum x G. arboreum*
    c. *G. herbaceum x G. barbadense*
    d. *G. herbaceum x G. arboreum*
19. Mendel failed to confirm his findings when he worked with:
    a. Maize
    b. Drosophila
    c. Hawkweed
    d. Cowpea
20. The genetic constitution of normal *Drosophila* female is:
    a. XX
    b. XXY
    c. XY
    d. XO
21. Dwarf stature in cereal is associated with:
    a. Increased tillering
    b. Fertilizer responsive
    c. Lodging resistance
    d. All of the above
22. The real value of seed lot is determined by:
    a. {Purity (%) x Germination (%)}/100
    b. {Purity (%) x Dockage (%)}/100
    c. {Purity (%) x Germination (%)}/Dockage (%)
    d. Germination (%) x Purity (%)
23. DNA dependent RNA polymerase binds to
    a. Regulator
    b. Structural gene
    c. Promoter
    d. Operator
24. Which of the following is a bacterium eater?
    a. Cyanophage

b. Coliphage
c. Bactriocide
d. Bacteriophage

25. The insect which can spread viruses is known as:
    a. Vector
    b. Host
    c. Parasite
    d. Virion
26. The center of origin of soybean is:
    a. Hindustan
    b. Mexico
    c. China
    d. Mediterranean
27. Glycogen is
    a. Protein
    b. Fat
    c. Carbohydrate
    d. None of the above
28. The one gene one enzyme hypothesis was proposed by:
    a. Beadle and Tatum
    b. Crick
    c. Garrod
    d. Brenner
29. The process of DNA synthesis from RNA in the presence of DNA polymerase is:
    a. Translation
    b. Transcription
    c. Reverse translation
    d. Reverse mutation
30. In 1883, late blight of potato was inadvertently introduced in India from:
    a. Mexico
    b. Europe
    c. USA
    d. South America
31. Colour blindness is governed by a recessive gene located on:
    a. Y chromosome
    b. X chromosome
    c. Autosome
    d. All of the above
32. In honey bee, larva which feeds on royal jelly develops into:
    a. Sterile female

b. Fertile queen
c. Haploid male
d. All of the above

33. Cytoplasmic genes are found in:
    a. Mitochondria
    b. Chloroplasts
    c. Both
    d. Neither
34. Bacterial leaf blight is a serious disease of:
    a. Wheat
    b. Pea
    c. Mustard
    d. Rice
35. Additive genetic variance is:
    a. Heritable nonfixable
    b. Heritable fixable
    c. Nonheritable nonfixable
    d. None of the above
36. The terms *exon* and *intron* are related to
    a. Overlapping genes
    b. Jumping genes
    c. Split genes
    d. Pseudogenes
37. In DNA, guanine and cytosine bases are joined by:
    a. Double hydrogen bond
    b. Triple phosphate bond
    c. Single hydrogen bond
    d. Triple hydrogen bond
38. Among the given radioactive isotopes, which one is the common source of gamma rays used for biological studies?
    a. Radium
    b. ^{14}C
    c. ^{60}Co
    d. None of the above
39. Which of the following induces cell division?
    a. Auxin
    b. Cytokinin
    c. Gibberellin
    d. Abscissic acid
40. Clones usually degenerate due to:

a. Viral infection
b. Bacterial infection
c. Mutation
d. All of the above

41. Guttation takes place through:
    a. Stomata
    b. Hydathode
    c. Lenticel
    d. None of the above
42. Which is a potent mutagen for inducing cytoplasmic male sterility?
    a. Mustard gas
    b. Ethydium bromide
    c. EMS
    d. UV light
43. The alternating effect of day and light conditions on flowering is called:
    a. Photoperiodism
    b. Vernalisation
    c. Photosynthesis
    d. Phototropism
44. Oxygen liberated during photosynthesis comes from:
    a. CO_2
    b. H_2O
    c. Excited chlorophyll
    d. Carotenoids
45. The process of bringing a wild species under human management is referred to as:
    a. Introduction
    b. Agronomy
    c. Acclimatization
    d. Domestication
46. Grow-out test/field plot test provides information about:
    a. Seed viability
    b. Genetic purity
    c. Freedom from disease
    d. Presence of noxious weed
47. Sex chromosomes were first discovered in:
    a. *Drosophila*
    b. Grasshopper
    c. Garden pea
    d. Maize
48. The source of reduced height (*rht*) genes used in wheat breeding is:

a. Tom thumb
b. Norin 10
c. Dee-geo-woo-gen
d. Norin 10 & Tom thumb

49. Selfing reduces heterozygosity in each generation by:
a. 1/8
b. ¼
c. 1/3
d. ½

50. Groundnut production is maximum in:
a. Gujarat
b. Maharashtra
c. Andhra Pradesh
d. Tamilnadu

51. Drip irrigation is useful in the regions with:
a. High humidity
b. High rainfall
c. Cold conditions
d. Dry conditions

52. Golden rice is rich in:
a. Vitamin – A
b. Vitamin – B
c. Vitamin – C
d. Vitamin – D

53. Artificial clouds are created by:
a. Sodium Chloride
b. Magnesium Iodide
c. Silver Iodide
d. Chromium Iodide

54. Which vitamin is lost when rice is polished or washed repeatedly?
a. Vitamin – A
b. Vitamin – B1
c. Vitamin – B6
d. Vitamin – B12

55. A criss-cross pattern of inheritance is exhibited by:
a. Sex linked characters
b. Sex limited characters
c. Sex influenced characters
d. Others

56. Point mutation at molecular level is due to:

a. Destruction of bases
b. Destruction of double helix
c. Shifting of a position of the helix and the bases
d. Alteration of sequences of base in DNA

57. Chromosome number of a somatic cell of maize plant is:
a. 22
b. 14
c. 20
d. 26

58. Replacement of purine by pyrimidine or vice-versa is known as:
a. Transition
b. Transversion
c. Transduction
d. Translocation

59. The frequency of crossing over is determined by:
a. Parental genotypes
b. Distance between genes
c. Length of the chromosome
d. Size of the genome

60. The progeny of a hybrid plant:
a. Breeds true
b. Resembles maternal plant
c. Resembles paternal plant
d. Segregates

61. A panmictic population means:
a. Self-pollinated population
b. Inbred population
c. Hybrid population
d. Random-mating population

62. The population of a single cross hybrid (F_1) is
a. Homozygous and homogenous
b. Homozygous and heterogenous
c. Heterozygous and homogenous
d. Heterozygous and heterogenous

63. How much nitrogen will be supplied by 1 ton of Ammonium Sulphate?
a. 50 kg
b. 200 kg
c. 300 kg
d. 160 kg

64. Nitrogen is taken by the plant in the form of:

a. Oxide
b. Chloride
c. Nitrate
d. Both A & B

65. The critical stage for irrigation in Tobacco is:
    a. Tillering
    b. Flowering
    c. Topping
    d. Maturity
66. Hybrid rice seed production is done using:
    a. GMS
    b. CMS
    c. CGMS
    d. Both A & B
67. Which of the following is an objectionable weed in wheat:
    a. *Echonocloa spp*
    b. White Morning Glory
    c. Wild Oat
    d. *Cuscuta spp*
68. Environment sensitive male sterility is successfully being exploited for hybrid seed production in:
    a. Tomato
    b. Sorghum
    c. Rice
    d. Castor
69. The main purpose of emasculation is to:
    a. Prevent selfing
    b. Promote crossing
    c. Prevent out crossing
    d. Prevent seed set
70. Recalcitrant seeds:
    a. Can be dried at low temperature
    b. Can be stored at low temperature
    c. Cannot be dried
    d. Cannot be dried and stored at low temperature
71. Which of the following has the highest genetic purity:
    a. Certified seed
    b. Nucleus seed
    c. Foundation seed
    d. Breeder seed

72. Loose smut of wheat is a:
    a. Seed-borne disease
    b. Soil-borne disease
    c. Air-borne disease
    d. Insect transmitted
73. Sugary disease is common in:
    a. Wheat
    b. Rice
    c. Sorghum
    d. Barley
74. All the microorganisms are killed during:
    a. Sterilization
    b. Pasteurization
    c. Moist steaming
    d. Hot water treatment
75. The rust fungi *Puccinia gramins* was named by:
    a. Person
    b. Prevost
    c. Mc Callan
    d. N. E. Borlaug
76. The father of bacteriological techniques is:
    a. Doi
    b. Burril
    c. Domagk
    d. Robert Koch
77. Mosaic is a major disease of the spice crop:
    a. Clove
    b. Turmeric
    c. Cumin
    d. Cardamom
78. In an autoclave, the culture media for the cultivation of microorganisms is sterilized at:
    a. 15 psi for 15-20 minutes
    b. 30 psi for 65 minutes
    c. 05 psi for 02 minutes
    d. 20 psi for 120 minutes
79. Ruska E and von Borries have developed:
    a. Compound microscope
    b. Simple microscope
    c. Electron microscope
    d. Microscopic lens

80. Lysine is limiting amino acid in:
    a. Wheat
    b. Pulses
    c. Leafy Vegetables
    d. Both A and B
81. Boll guard (BG-II) is a transgenic version of the crop:
    a. Cotton
    b. Maize
    c. Rice
    d. Pigeon Pea
82. First man made cereal is:
    a. Triticale
    b. Secale cereal
    c. Raphano brassica
    d. None of these
83. Source of dwarfing gene in rice is:
    a. Dee-Gee-Woo-Gen
    b. Norin 10
    c. Nipsoli
    d. Both A & B
84. ???
    a. Crossing over
    b. Dominance
    c. Heterosis
    d. None of these
85. The number of single crosses will be equal to:
    a. n(n-1)/2
    b. n(n-1)(n-2)/8
    c. n(n-1)(n-2)(n-3)/8
    d. None of these
86. Occurrence of pollination in bud condition is called as:
    a. Cleistogamy
    b. Polygamy
    c. Syngamy
    d. Both A & B
87. The progeny of a single homozygous self pollinated plant is known as:
    a. Land Race
    b. Clone
    c. Inbred
    d. Pure line

88. The phenomenon of linkage was discovered by:
    a. T.H. Morgan
    b. Shull
    c. Mendel
    d. Watson
89. A plant which lack a pair of chromosome (2n-2) is termed as:
    a. Nullisomic
    b. Monosomic
    c. Trisomic
    d. None of these
90. A pyrimidine base occurring in RNA:
    a. Uracil
    b. Adenine
    c. Thymine
    d. Guanine
91. The protein synthesis is carried out on:
    a. Mitochondria
    b. Mesosome
    c. Ribosome
    d. Nucleus
92. H.G. Khorana got Nobel Prize in 1968 for the work on:
    a. RNA Synthesis
    b. Protein synthesis
    c. Genetic code and *in vitro* synthesis of DNA
    d. Mutation breeding
93. The number of bases in the single turn of the DNA helix is:
    a. 5
    b. 7
    c. 10
    d. 12
94. The amino acid related to drought tolerance in crops is:
    a. Glutamic acid
    b. Proline
    c. Glycine
    d. Methionine
95. The cell organelle having digestive enzyme is:
    a. Ribosomes
    b. Lysosomes
    c. Mitochondria
    d. Golgi bodies

96. Sulphur containing amino acids are:
    a. Methionine
    b. Cysteine
    c. Lusine
    d. Both A & B
97. Fungal cell wall is made up of:
    a. Cellulose
    b. Chitin
    c. Pectin
    d. Cutin
98. Viroids are:
    a. Protein encapsulated RNA
    b. Protein uncapsuled single stranged RNA
    c. Protein encapsulated DNA
    d. None of these
99. The downy mildew disease of pearl-millet is caused by the pathogen
    a. *Claviceps fusilormis*
    b. *Tolyposporium penicillarae*
    c. *Scierospora graminicola*
    d. *Pyricularia* spp.
100. Charcoal rot disease in crops is caused by the pathogen:
    a. *Macrophomina phaseolina*
    b. *Rhizoctoria solani*
    c. *Sclerotium rolfsii*
    d. *Fusarium moniliforme*
101. False smut of rice is caused by the pathogen:
    a. *Pyricularia oryzae*
    b. *Ustilagenoidae virens*
    c. *Xanthomonas oryzae* pv. *Oryzae*
    d. None of these
102. Damping-off of nursery seedlings is caused by the pathogen:
    a. *Phytophthora infestans*
    b. *Pythium* spp.
    c. *Sclerotium ??*
    d. *Sclerotinia* sp.
103. "Bordeaux mixture" – a fungicide was initially developed for the management of disease:
    a. Downy mildew of grape
    b. Late blight of potato
    c. Fire blight of pear

d. Powdery mildew of wheat

104. Which of the following is Golden cyst nematode?
   a. *Heterodera rostochiensis*
   b. *Anguina tritici*
   c. *Meloidogyne javanica*
   d. *Radopholus* sp.

105. Vertical resistance is also termed as:
   a. Monogenic or oligogenic resistance
   b. Minor gene resistance
   c. Multi gene resistance
   d. None of these

106. The seed borne viruses can be detected by the method:
   a. ELISA method
   b. Rolled paper towel method
   c. Agar plate method
   d. None of these

107. Study of "antigens" and "antibodies" interaction is known as:
   a. Antibiosis
   b. Necrology
   c. Serology
   d. None of these

108. Oxidation of alcohol in presence of the microbes gives rise to:
   a. Acetic acid
   b. Lactic acid
   c. Citric acid
   d. Nitric acid

109. Bacteria which require low temperature (15-20^0 C) as optimum for growth are known as:
   a. Psychrophiles
   b. Mesophiles
   c. Thermophiles
   d. None of these

110. Powdery mildew disease is caused by the pathogen:
   a. *Oidium* spp.
   b. *Erysipne* spp.
   c. *Leveillula* sp.
   d. All of these

111. "Flavr Savr" – a transgenic variety which has delayed ripening trait belongs to:
   a. Tomato
   b. Mango

c. Guava
d. Grapes

112. How many chromosomes are there in wheat endosperm?
a. 3 x 21 = 63
b. 2 x 21 = 42
c. 4 x 21 = 84
d. 1 x 21 = 21

113. Conversion of amino acids into ammonia takes place by the process:
a. Ammonification
b. Nitrification
c. Deamination
d. None of these

114. The growth regulator "Gibberellins" were first isolated from:
a. Fungus
b. Bacteria
c. Viruses
d. Molicute

115. Premature ripening of banana is associated with:
a. Ethylene production
b. CO production
c. Acid production
d. O_2 production

116. The first carbohydrate produced by photosynthesis in plant is:
a. Glucose
b. Fructose
c. Cellulose
d. Lactose

117. In plant cell, genetic material i.e. DNA is located at:
a. Nucleus
b. Chloroplast
c. Mitochondrion
d. All of these

118. Transfer of genetic material from one bacterium to other by Bacteriophage is known as:
a. Transformation
b. Transduction
c. Both A & B
d. Conjugation

119. The chemical compounds that act as plant defense activator are:
a. Salicylic acid

b. Isonicotinic acid
c. Copper sulphate
d. Both A & B

120. Mushrooms belong to phylum:
a. Basidiomycota
b. Ascomycota
c. Zygomycota
d. Chytridiomycota

121. Digestion of the starch takes place by the enzyme:
a. Lipase
b. Amylase
c. Lignases
d. Xylanase

122. Specialized feeding hyphae (haustoria) of endomycorrhizae are called:
a. Arbuscules
b. Vesicles/Vosicles??
c. Appressoria
d. Both A & B

123. The process of conversion of ammonia into nitrate is termed as:
a. Nitrification
b. Ammonification
c. Denitrification
d. None of these

124. Shrinking of protoplast of a cell in hypertonic solution is termed as:
a. Plasmolysis
b. Plasmoptysis
c. Rehydration
d. Both A & B

125. The common fungi causing seed deterioration is:
a. *Aspergillus niger*
b. *Albugo* sp.
c. *Alternarua alternate*
d. *Oidium* sp.

126. Neurotoxin BOAA is present in the crop:
a. *Lathyrus sativus*
b. *Brassica* sp.
c. Wheat
d. Pearl Millet

127. Kalyansona and Sonalika varieties of wheat were selected from material introduced from:

a. CIMMYT
b. ICARDA
c. ICRISAT
d. IRRI

128. The most common micro-organism used for fermentation is:
a. Yeast
b. Bacteria
c. Fungi
d. Virus

129. The phenomenon of presence of genetically dissimilar nuclei in the hypea?? or ?? fungi is known as:
a. Homocaryosis
b. Heterocaryosis
c. Karyogamy
d. Plasmogamy

130. The concept of physiologic races was introduced by:
a. Barrus (1911)
b. N. E. Borlaug
c. Biffen
d. Van der Plank

131. "Vertifolia effect" was demonstrated in the host and diease:
a. Potato and Late blight
b. Wheat and Rust
c. Tomato and Early blight
d. Pearl millet and downy mildew

132. The position at which a gene is located in the chromosome is known as:
a. Locus
b. Centromere
c. Both A and B
d. None of these

133. Solar heat treatment of wheat seeds is practiced for the management of:
a. Loose smut
b. Seed gall
c. Black rust
d. Yellow rust

134. Reduction of nitrite to ammonia takes place in the presence of enzyme:
a. Nitrate reductase
b. Nitrite reductase
c. Triose phosphate dehydrogenase
d. Triose phosphate isomeras

135. Cyanobacteria fixing atmospheric “Nitrogen” contain:
   a. Akinetes
   b. Heterocyst
   c. Aptanospore
   d. None of these
136. Genetic crossing over occurs during:
   a. ??
   b. Pachytene
   c. Zygotene
   d. Diplotene
137. Metalaxyl-MZ is sold in the market as:
   a. Ridomil MZ 72 WP ??
   b. Plantvax
   c. Dixon
   d. Bavistin 50 WP
138. The enzyme secreted by yeast is known as:
   a. Zymase
   b. Diastase
   c. Both A & B
   d. None of these
139. Which of the following set includes only bacteria?
   a. Cholera, Typhoid, Mumps
   b. Tetanus, Tuberculosis, Measles
   c. Malaria, Mumps, Poliomyelitis
   d. Diphtheria, Leprosy, Plague
140. “Damping off” of nursery seedlings can be controlled by:
   a. Metalaxyl + Mancozeb
   b. Copper oxychloride
   c. Buta??
   d. Both A & B
141. Yellow vein mosaic of okra is transmitted by:
   a. White fly
   b. Aphid
   c. Thrips
   d. None of these
142. The vector of bud necrosis of groundnut is:
   a. Thrips
   b. Whitefly
   c. Jassids
   d. Mealy bug

143. Both respiration and photosynthesis require:
   a. Chlorophyll
   b. Sunlight
   c. Glucose
   d. Cytochrome
144. In eukaryotes, Kreb cycle occurs in:
   a. Cytochrome
   b. Ribosome
   c. Matrix of mitochondria
   d. All of these
145. Fermentation is an example of:
   a. Aerobic respiration
   b. Anaerobic respiration
   c. Both A & B
   d. None of these
146. The rod shaped bacteria are termed as:
   a. *Bacillus*
   b. *Vibrio*
   c. *Spirillum*
   d. *Coccus*
147. Endospore are produced by:
   a. Bacteria
   b. Fungi
   c. Virus
   d. None of these
148. Khaira disease of rice is due to deficiency of:
   a. Cu
   b. Fe
   c. Zn
   d. S
149. Antibiotic “streptomycin” was discovered by:
   a. S. A. Waksman
   b. Alexander Fleming
   c. Jacob Lipman
   d. Liebig
150. Where only one microorganism is benefitted from the interaction the phenomenon is known as:
   a. Mutualism
   b. Commensalism
   c. Amensalism

d. None of these

Matching type questions (nos. 151 – 160). Each sub-question carries ONE mark. Choose the correct answer (A, B, C, D, E) for each sub-question (i, ii, iii, iv, v) and enter your choice in the circle (by shading with a H. B. Pencil) on the OMR – answer sheet. For each wrong answer 0.20 mark will be deducted.

Match the following:

151.

(i)	Oncogenes	(A) Transposons
(ii)	Queen of Genetics	(B) T-DNA
(iii)	Jumping genes	(C) Agrobacterium tumefaciens
(iv)	Natural genetic engineer	(D) T-DNA genes iaaH,iaaM,and ipr
(v)	Genetic paradise	(E) Drosophila melanogaster

152.

(i)	Simple monosomy	(A) 2n+1
(ii)	Simple trisomy	(B) 2n-1-1
(iii)	Nullisomy	(C) 2n+1+1
(iv)	Double trisomy	(D) 2n-1
(v)	Double monosomy	(E) 2n-2

153.

(i)	Indian Institute of Sugarcane Research (IISR)	(A) Coimbatore
(ii)	Central Institute for Cotton Research (CICR)	(B) Shimla
(iii)	Sugarcane Breeding Institute (SBI)	(C) Lucknow
(iv)	Central Potato Research Institute (CPRI)	(D) Varanasi
(v)	Indian Institute of Vegetable Research (IIVR)	(E) Nagpur

154.

(i)	Protoplast	(A) Foreign DNA
(ii)	Explant	(B) Naked cell
(iii)	Micropropagation	(C) A mass of unorganized cells
(iv)	Callus	(D) Microcloning
(v)	Transgenic plant	(E) Plant part used for regeneration

155.

(i)	Mitochondria	(A) Packaging of food material
(ii)	Chloroplast	(B) Cellular respiration
(iii)	Ribosome	(C) Photosynthesis

(iv)	Golgi bodies	(D) Digestive vacuoles
(v)	Lysosomes	(E) Protein synthesis

156.

(i)	Blast	(A) Arhar
(ii)	Late blight	(B) Wheat
(iii)	Wilt	(C) Groundnut
(iv)	Black rust	(D) Rice
(vi)	Tikka	(E) Potato

157.

(i)	Seed viability	(A) Indole acetic acid
(ii)	Seed germination	(B) GA
(iii)	Shoot elongation	(C) Thiourea
(iv)	Seed dormancy	(D) Calcium Chloride
(vi)	Seed longevity	(E) 2,3,5–triphenyl tetrazolium chloride

158.

(i)	Hybrid cells	(A) Lack of O_2
(ii)	Cybrid cells	(B) Vector for gene transfer in plants
(iii)	Agrobacterium tumefaciens	(C) Cells containing the nuclei of one cell and the cytoplasm of the other cell
(iv)	Black Heart of potato	(D) Xanthomonas agonopodis pv malvacearum
(vi)	Black arm of cotton	(E) Cells containing nuclei and the cytoplasm

159.

(i)	Theory of natural selection	(A) Whittaker
(ii)	Theory of mutation	(B) JB de Lamarck
(iii)	Theory of organic evolution	(C) Hugo de Vries
(iv)	Binomial system of nomenclature	(D) Darwin
(vi)	Five kingdom classification	(E) Linnaeus

160.

(i)	Jatropha	(A) Foreign DNA
(ii)	Transgenic plants	(B) Fibers
(iii)	Callus	(C) Biofuel
(iv)	Guar	(D) A mass of urorganized cells
(v)	Linseed	(E) Gum