

























- c) Rust  
d) Blight
- 118) Polyporus and Ganoderma causes \_\_\_\_\_ to higher plants.  
a) wood rot  
b) blight  
c) blast  
d) collar rot
- 119) \_\_\_\_\_ bacteria are rod shaped.  
a) Coccus  
b) Bacillus  
c) Spirillum  
d) Vibrios
- 120) A red alga named \_\_\_\_\_ only grows in fresh water.  
a) Batrachospermum  
b) Chlorella  
c) Volvox  
d) Chara
- 121) Fungi growing on insects are called \_\_\_\_\_.  
a) Coprophilous fungi  
b) Entomogenous fungi  
c) Mycorrhizal fungi  
d) Aquatic fungi
- 122) An example of aquatic floating bryophyte is \_\_\_\_\_.  
a) Marchantia  
b) Porella  
c) Funaria  
d) Riccia fluitans
- 123) \_\_\_\_\_ lichens grow on bark, leaves, or young or old branches in abundant moisture  
a) Saxicolous  
b) Terricolous  
c) Corticolous  
d) Lithophytic
- 124) In Nostoc, the \_\_\_\_\_ are the main sites of biological nitrogen fixation.  
a) heterocysts  
b) aplanospores  
c) akinetes  
d) endospores
- 125) A green pond silk alga called Spirogyra belongs to class \_\_\_\_\_.  
a) Rhodophyceae  
b) Chlorophyceae  
c) Cyanophyceae  
d) Phaeophyceae
- 126) A Yeast Saccharomyces reproduces by \_\_\_\_\_.  
a) budding  
b) Chlamydospores  
c) Zoospores  
d) aplanospores
- 127) The bryophytes belonging to class Hepaticopsida are commonly called \_\_\_\_\_.  
a) horn worts  
b) liverworts  
c) stoneworts  
d) mosses
- 128) Somatic mycelium of \_\_\_\_\_ is coenocytic, aseptate and branched.  
a) Cercospora  
b) Aspergillus



- 141) Nuclear membrane is present in nucleus of -----  
 a) *eukaryotic organisms*    b) bacteria    c) fungi    d) viruses
- 142) Nucleoplasm carries out the synthesis of -----  
 a) m-RNA    b) t-RNA    c) proteins    d) lipids
- 143) Histones are rich in -----  
 a) glutamine    b) valine  
 c) Arginine and lysine    d) Asparagine
- 144) Ribosomes observed in clusters and held together by m-RNA strand, are called -----  
 --  
 a) polyribosomes    b) polysomes    c) oxysome    d) peroxisomes
- 145) Ribosome particles are measured by -----  
 a) *Sedimentation coefficient*    b) linear coefficient  
 c) upward coefficient    d) downward coefficient
- 146) ----- ions are responsible for dissociation of Ribosomes.  
 a)  $Mg^{++}$     b)  $Fe^{++}$     c)  $Na^{++}$     d)  $Ca^{++}$
- 147) Eukaryotic ribosome is made up of sedimentation coefficient -----  
 a) 60s    b) 80s    c) 40s    d) 50s
- 148) 70s of Prokaryotic ribosome is composed of -----  
 a) 50s & 30s    b) 40s & 30s    c) 50s & 20s    d) 35s & 35s
- 149) Larger subunit of eukaryotic ribosome consists of ----- proteins  
 a) 40    b) 30    c) 50    d) 34
- 150) ----- (1956) used the term Ribosomes  
 a) Robertson    b) Morgan    c) De robertis    d) S Hall & Zubay
- 151) Eukaryotic ribosomes show ----- RNA.  
 a) 2    b) 3    c) 4    d) 6
- 152) Prokaryotic ribosomes consists ----- RNA.  
 a) fat    b) carbohydrate    c) Protein    d) lipid
- 153) Yeast ribosomes contain ----- RNA  
 a) 10%    b) 20%    c) 30%    d) 30-44%
- 154) Ribosomes carry out ----- synthesis  
 a) Fat    b) Carbohydrate    c) Protein    d) lipid
- 155) The unit membrane of nuclear envelope is about ----- thick.  
 a) 75- 90°A    b) 20-30°A    c) 40 - 70°A    d) 30-40°A
- 156) The nuclear envelope is interrupted by -----

- a)                      b) nuclear pores      c) larvina      d) peripheral space
- 157) Nuclear pore is enclosed by a circular structure called -----  
 a) lumen      b) lamina      c) lumen      d) annulus
- 158) ----- are the uncondensed chromatin material present in nucleoplasm  
 a)
- 159) Eukaryotic cells are -----  
 a) dikaryotic    b) monokaryotic      c) Polykaryotic      d) akaryotic
- 160) DNA and Histones are always present in fixed ratio of -----  
 a) 2 : 1      b) 2 : 2      c) 1 : 2      d) 1 : 1
- 161) Eukaryotic chromosome usually show -----  
 a) three      b) four    c) five      d) six
- 162) H1 histone is rich in -----  
 a) Valine      b) arginine    c) lysine      d) Alanine
- 163) Histones are -----  
 a) lipids      b) proteins      c) sugars      d) lignin
- 164) Golgi complex was first discovered by -----  
 a) Weismann      b) Camillo Golgi      c) Fontana      d) Krebs
- 165) ----- is responsible for cell plate formation.  
 a) Golgi complex    b) mitochondria      c) mesosome    d) gibosomes
- 166) ----- are absent in blue green algae and bacteria.  
 a) ER      b) mitochondria      c) mesosome    d) gibosome
- 167) ----- are called suicide bags  
 a) Lysosomes      b) mesosomes    c) ribosomes      d) ribosomes
- 168) Autolysis is found in -----  
 a) me      b) dictyosomes      c) Lysosomes    d) ribosomes
- 169) ----- in golgi complex help in transport of proteins and lipids.  
 a) cytoplasm      b) vesicles      c) ectoplasm      d) lysatubules
- 170) The -face of cisterna consists ----- enzyme.  
 a) acid phosphatase                      b) alkaline - phosphatase  
 c) ATP                                      d) catalase
- 171) Golgi complex are located near -----  
 a) nucleus      b) mitochondria      c) chloroplast    d) peroxisomes
- 172) Golgi complex are responsible for ----- during cell division.





- a) peroxidase b) catalase c) ATP-ase d) ligase
- 189) Enzymes of glyoxylate cycle are present.  
a) peroxisomes b) dictyosomes c) glyoxisomes d) ribosomes
- 190) Singer - Nicholson's submit model of cell membrane is also known as -----  
a) fluid-mosaic model b) Robertson model  
c) Davson model d) Singars model
- 191) Lipid Bilayer model of cell membrane is also known as -----  
a) Singer Micholson's model b) Danielli Davson model  
b) Robertson's model d) Nicholson's Model
- 192) Integral membrane proteins are called -----  
a) actin b) tubulin c) mydin d) ion channels
- 193) Smooth ER is mainly present in cells those carrying ----- metabolism  
a) lipid b) Nitrogen c) Carbohydrate d) fat
- 194) Linkage in *Orosophila* discovered by -----  
a) Morgan b) Muller c) Mendel d) Bateson
- 195) Phenomenon that works opposite linkage is -----  
a) Segregation b) Mutation c) assortment d) Crossing over
- 196) Complete linkage is found in -----  
a) male *Drosophila* b) Birds  
c) Insects d) female *Drosophila*
- 197) Crossing over occurs at -----  
a) Pachytene b) diplotene c) Zygotene d) leptotene
- 198) Crossing over results in -----  
a) mutation b) selection  
c) genetic recombination d) inversion
- 199) Crossing over occurs at ----- stage  
a) centromere b) chiasmata c) telomere d) deletion
- 200) Linkage groups are equal to ----- number of chromosomes  
a) haploid b) diploid c) triploid d) tetraploid
- 201) In ----- chiasmata are formed along the length of chromosomes in homologous pair  
a) double cross over b) triple crossing over  
c) single crossing over d) four stranded crossing over

- 202) ----- considered as cytological proof for crossing over  
 a) chromosome variation                      b) gene mutation  
 c) chaisma                                      d) deletion
- 203) In human beings, ----- linkage groups occur  
 a) 46              b) 23              c) 33              d) 13
- 204) Mendelian recombination are due to -----  
 a) linkage      b) mutation      c) crossing over      d) Independent assarment
- 205) In -----, the linked genes don't always stay together.  
 a) complete linkage                      b) incomplete linkage  
 c) mutation                                      d) crossing over
- 206) Crossing over leads to new -----  
 a) character combination                      b) deviation  
 c) mutation                                      d) segregation
- 207) The genes which are not assorted indepently are called -----  
 a) barnase genes                                      b) jumping genes  
 c) lethal genes                                      d) linked genes
- 208) The unit of crossing over is -----  
 a) centimeter   b) millimeter              c) centimorgan              d) milligram
- 209) The botanical name of rubber plant is -----  
 a) *Hevea brasiliensis*                      b) *Hibiscus rosa Sinensis*  
 c) *Lawsenia inermis*                      d) *Acadirachta indica*
- 210) *Hevea brasiliensis* belongs to -----  
 a) India              b) Indonesia              c) Africa              d) Brazil
- 211) The rubber obtained from *Hevea brasiliensis* is called -----  
 a) ceara rubber                                      b) para rubber  
 c) Assam rubber                                      d) Lagas silk rubber
- 212) The collection of latex from rubber                      is called  
 a) pressing                                      b) evaporation              c) tapping              d) crushing
- 213) ----- is an important chemical constituent of Neem  
 a) borneol      b) curcumin      c) Nimbidine      d) Azadirachtine
- 214) Red Indians used, ----- for colouring bodies  
 a) annatto      b)                      c)                      d)
- 215) ----- is obtained from Azadirachta

- a) Azadirachtine                      b) curcumin    c) indicant
- 216) *Curcuma longa* is also called -----  
 a) Henna      b) turmeric    c) saffron      d) Annatto
- 217) 'Aunalto' is obtained from -----  
 a) *Bixa orellatna*                      b) *Lawsonia inermis*  
 c) *Carthamous tinctorius*      d) *Rubia tentorium*
- 218) Orange-red dye is obtained from rhizomes of -----  
 a) turmeric                      b) annattic                      c) henna      d) saffron
- 219) ----- insecticide is obtained from *Nicotiana tabaccum*  
 a) nicoline                      b) Azadirachtine      c) nimbin      d) Nimbidine
- 220) Flower of *Butea* yields ----- eye  
 a) bright yellow      b) blue      c) orange      d) purple
- 221) The botanical name of ginger is -----  
 a) *Zingiber officinale*                      b) *Withania somnifera*  
 c) *Emblica officinalas*      d) *Tinospora corditolia*
- 222) The botanical name of Ashwagandha is -----  
 a) *Tinospora cordifolia*                      b) *Withania somnifera*  
 c) *Emblica officinali*                      d) *Adhatoda vasica*
- 223) The botanical name of Adulsa is -----  
 a) *Justicia adhadota*                      b) *Tinospora cordifolia*  
 c) *Zingiber officinale*                      d) *Szygium aromaticum*
- 224) The botanical name of Clove is -----  
 a) *Syzygium rubicundum*                      b) *Szygium aromiticum*  
 c) *Syzygium jambolana*                      d) *Syzygium cumini*
- 225) An important chief constituent of *Zingiber officinale* is -----  
 a) eugenol                      b) Zingiberine c) Codeine      d) morphine
- 226) A chemical constituent somniferine is present in -----  
 a) *Withania somnifera*                      b) *Zingiber officinale*  
 c) *Curcuna longa*                      d) *Justicia adhatoda*
- 227) A bitten alkaloid of *Justicla adhatoda* is -----  
 a) Vasicinine b) phyllembin c) Caryophyllene      d) Zingiberine
- 228) *Justicia adhatoda* is commonly called -----

- a) clove      b) vasoka                      c) Turmeric                      d) Aswagandha
- 229) -----is used in ayurvedic medicine in case of *Zingiber officinale*  
a) rhizome    b) fruits              c) leaves              d) flower buds.
- 230) The native place of clove referred to -----  
a) Moluccas island                      b) India              c) West Indies                      d) Africa
- 231) ----- fruits are richest natural source of Vit-C.  
a) *Emblica*    b) *Zingiber*    c) *Withania*    d) *Syzygium*
- 232) ----- is one of the important constituents of *Triphala churna* in ayurvedic preparations.  
a) Emblica fruits                                      b) clove buds  
c) Zingiber rihizome                      d) withania roots
- 233) Flowers buds of ----- are used in ayurvedic medicines.  
a) clove      b) Amla      c) Zinger      d) Vasaka.
- 234) Chavanprash a ayurvedic tonic is made from -----  
a) *Emblica officinalis*                                      b) *Tinospora cordifolia*  
c) *Terminalia bellerica*                                      d) *Terminalea chebula*
- 235) ----- is one of the chemical constituents present in *Syzygium aromaticum*  
a) Caryophyllene    b) Zingiberine                      c) coderine    d) Morphine
- 236) ----- oil is used in mouthwash preparations.  
a) Clove      b) Zinger      c) turmeric      d) Amla
- 237) ----- is a ayurvedic preparation extracted from dry stem of *Tinospora*  
a) gulvel satva                      b) sunth                      c) Avalkathi                      d) Chavanprash
- 238) Chewing ----- prevents nausea and vomiting  
a) Amla fruits                      b) clove                      c) Vasaka leaves                      d) Zinger rhizome
- 239) Active constituent of ----- inhibits growth of *E. coli*.  
a) Tinospora    b) clove                      c) Withania                      d) Vasaka
- 240) Zingiber originated in -----  
a) Africa      b) Far east                      c) South-East Asia                      d) Moluccas
- 241) ----- is used in antiseptic ointments and lotions for skin.  
a) clove oil                      b) zinger oil                      c) Amla oil                      d) Root paste
- 242) ----- is a important constituent of *Emblica officinalis*  
a) phyllembilin                      b) Zingiberene                      c) engenol                      d) curcumene
- 243) ----- is commonly called Horse tail pteridophyte

- a) *Equisetum*                      b) *Ophioglossum*                      c) *Adiantum*                      d) *Psilotum*
- 244) ----- is the spore producing structure in *Psilotum*
- a) Sorus                      b) Strobilus                      c) Synangium                      d) Sporangium
- 245) *Pinus* belongs to class -----
- a) *psilopsida*                      b) *Bryopsida*                      c) *Anthocerotopsida*                      d) *Coniferopsida*
- 246) The ovules of *Pinus* are -----
- a) Campycotropus                      b) Orthotropus
- c) Circinotropus                      d) Anatropous
- 247) *Ocimum* shows ----- type of inflorescence.
- a) Verticillaster                      b) Capitulum                      c) Cyathium                      d) Spadix
- 248) ----- is an essential whorl of a flower.
- a) Corolla                      b) Bracteole                      c) Gynoecium                      d) Calyx
- 249) Standard or vexillum is a part of ----- Corolla.
- a) Canpanulate                      b) Cruciform
- c) Caryophyllaceous                      d) Papilionaceous
- 250) Bentham and Hooker published ----- for a system of classification of plants.
- a) Indian herbs                      b) *Genera plantarum*
- c) *Materia medica*                      d) *Garcia d'orta*
- 251) The natural openings in the periderm region of stem are known as -----
- a) hydathodes                      b) Stomata
- c) pneumatohodes                      d) lenticles
- 252) Bulliform cells are present in -----.
- a) Banyah leaf                      b) Sunflower leaf
- c) Maize leaf                      d) Mangifera leaf
- 253) 70s of prokaryotic ribosome is composed of ----- subunits.
- a) 30s and 50s                      b) 60s and 40s
- c) 60s and 20s                      d) 40s and 40s
- 254) DNA and histones are present usually in fixed ratio of -----.
- a) 1:2                      b) 1:1                      c) 1:3                      d) 1:4
- 255) There are about fifty ----- enzymes present in the Lysosomes.
- a) nitrogenase                      b) hydrolases                      c) phosphatases                      d) catalases
- 256) The tendency of genes to remain together during the process of inheritance is called --  
-----

- a) mutation                      b) deletion                      c) Linkage                      d) evolution
- 257) Leaves of *Nicotiana tabacum* Linn. contain pyridine alkaloid named -----  
a) bixin                      b) Phellandrene                      c) nimbin                      d) nicotine
- 258) The rhizome of turmeric contain colouring matter -----.  
a) curcumin                      b) Saponins                      c) glycoside                      d) flavonoids
- 259) *Butea monosperma* flowers yield -----.  
a) blue-green dye                      b) bright-yellow dye  
c) orange-red dye                      d) Pink-red dye
- 260) The stem of *Tinospora cordifolia* consists medicinally important constituent ---.  
a) curcumin                      b) vasicinine                      c) glucoside-giolin                      d) gingerin
- 261) The leaves of *Justicia adhatoda* contain an important alkaloid called -----.  
a) columbin                      b) curcumin                      c) tinosporol                      d) vasicinine
- 262) ----- is one of the constituents of ayurvedic medicine 'Triphala churna'  
a) Turmeric rhizome                      b) Ginger rhizome  
c) Stem of *Tinospora*                      d) *Emblica* fruit
- 263) A stele without a central pith is called a -----  
a) Dictyostele                      b) Protostele                      c) *Siphonostele*                      d) Solenostele
- 264) ----- and Archegonia are produced in the prothallus.  
a) *antheridia*                      b) *ascogonia*                      c) Oogonia                      d) Spermatangia
- 265) In Stele, a smooth core of xylem is surrounded by Phloem is called a -----  
a) *Haplostele*                      b) Plectostele                      c) *Siphonostele*                      d) actinostele
- 266) ----- is a leafless pteridophyte  
a) Selaginella                      b) *Psilotum*                      c) marsilea                      d) Equisetum
- 267) Pteridophytes belonging to equisetineae are called -----.  
a) *Horse tail pteridophytes*                      b) liverworts                      c) hornworts                      d) mosses
- 268) The xylem in *Equisetum* root is usually -----  
a) Diarch                      b) monarch                      c) tetrarch                      d) Polyarch
- 269) The tubers in *Equisetum* are -----  
a) one internode long                      b) neither nodes or internodes  
c) two internode long                      d) several internode long
- 270) The root of *Equisetum* shows -----  
a) double layered pericycle                      b) cortical aerenchyma



- a) Equisetum b) Selaginella c) Psilotum d) Marsilea
- 285) Specialised structures are developed in Psilotum to produce spores are called -----  
-  
a) Synangia b) Conidia c) anthercidia d) Oogonia
- 286) Each sporangium in Psilotum is ----- lobed.  
a) two b) three c) four d) five
- 287) Eusporangiate type of sporangium development is found in -----  
a) Selaginella b) Marsilea c) Nephrolepis d) Psilotum
- 288) ----- is Homosporous.  
a) Equisetum b) Psilotum c) Selaginella d) Marsilea
- 289) Psilotum belongs to order -----  
a) Equisetales b) Psilotales c) Rhyniales d) Marcileales
- 290) The gametophyte of Psilotum grows as -----  
a) Parasite b) epiphyte c) Saprophyte d) halophyte
- 291) Spermatozoids in Psilotum are -----.  
a) biflagellate b) biflagellated and uncoiled  
c) multiflagellate and spirally coiled d) unflagellated and coiled
- 292) The roots of Pinus have symbiotic association of -----  
a) bacteria b) alga c) ecto-mycorrhiza d) endomycorrhiza
- 293) Winged pollen grains are found in -----  
a) Pteris b) Pinus c) Selaginella d) Psilotum
- 294) The wing of Pinus derives from -----  
a) Seed coat b) axis of cone c) bract scale d) avuliferous scale
- 295) Pinus seed develop ----- cotyledons  
a) one b) two c) many d) fleshy
- 296) Seeds of ----- are edible and named Chilgoza  
a) Pinus roxburghii b) Pinus gerardiana  
c) Pinus wallichiana d) Pinus armandi
- 297) Resin from Pine is obtained by -----  
a) tapping b) maceration c) squashing d) ridding
- 298) The foliage leaves of Pinus are -----  
a) lanceolate b) terete c) acicular d) spinous
- 299) Pinus seedlings thrive well in soil with -----





- 313) Catkin type of inflorescence is found in -----  
 a) caesalpinia b) M. acalypha c) maize d) margosa
- 314) Banana shows ----- inflorescence.  
 a) Catkin b) thyrsoid cyme c) compound spadix d) caryumb
- 315) Capitulum inflorescence is found in -----  
 a) Datura b) Sunflower c) Centella d) Onion
- 316) Centella (Hydrocotyle) shows ----- inflorescence.  
 a) simple umbel b) Compound umbel c) cymose d) racemose
- 317) Compound umbel inflorescence is present in -----.  
 a) Hydrocotyle b) c) Onion d) Caesalpinia
- 318) Ray florets are present at periphery in ----- inflorescence.  
 a) verticillaster b) umbel c) racemose d) capitulum
- 319) ----- is a typical example of Capitulum  
 a) sunflower b) onion c) ocimum d) Datura
- 320) ----- is an example of solitary cymose inflorescence  
 a) Datura b) Chinorose c) jasminum d) Ocimum
- 321) Heliotropium shows ----- type of inflorescence.  
 a) Helicoid cyme b) Scorpioid cyme  
 c) biparous cyme d) multiparous cyme
- 322) Bougeinuillea shows ----- inflorescence.  
 a) monochasial cyme b) dichasial cyme c) racemose d) solitary cyme
- 323) Verticillaster inflorescence is present in -----.  
 a) Ocimum b) Onion c) Carrot d) Datura
- 324) Cup shaped involucre is present in -----.  
 a) cyathium b) verticillaster c) Hypantholium d) umbel
- 325) Male, female and gall flowers are present in ----- inflorescence.  
 a) Cyathrium b) Hypanthodium c) Verticillaster d) capitute
- 326) ----- is one of the essential whorls of a flower  
 a) corolla b) calyx c) bract d) androecium
- 327) In Gynandropsis, the elongation of second and third internode is called ----  
 a) anthophore b) gynophore  
 c) gynandrophore d) sporangiophore
- 328) The spongy and flat top modified thalamus is present in -----

- a) carrot      b) chinorose      c) Annona      d) chinorose
- 329) Cupulate type of Calyx is present in -----  
 a) vinca      b) Bryophyllum      c) Datura      b) Bombax
- 330) The disc florets exhibit  
 a) pappus      b) marigold      c) Datura      d) petaloid sepat
- 331) Petaloid sepals are present in -----  
 a) mussaenola b) Barleria      c) Tridax      d) Salvia
- 332) Flower having four free petals arranged in the form of cross is called -----  
 corolla.  
 a) caryophyllaceous      b) Papillionaceous  
 c) Cruciform      d) Rosaceous
- 333) The shape of corolla is like butterfly is called -----  
 a) Cruciform      b) Papilionaceous  
 c) Caryophyllaceous      d) Rosaceous
- 334) Cucurbita flower shows ----- type of corolla  
 a) campanulate      b) cruciform      c) Rotate      d) Infundibuliform
- 335) Bryophyllum flower shows ----- type of corolla  
 a) Cruciform      b) rotate      c) Urceolate      d) Hypocrateriform
- 336) Strap shaped corolla is present in -----  
 a) ray floret of sunflower      b) Catharanthus  
 c) Bryophyllum      d) Ipomoea
- 337) Bilabiate corolla is present in -----  
 a) Cucurbita      b) Salvia      c) Dahlia      d) Mirabilis
- 338) Twisted aestivation is found in -----  
 a) China rose      b) Salvia      c) Anona      d) Caesalpinia
- 339) Imbricate aestivation is found in -----  
 a) China-rose      b) Salvia      c) Caesalpinia      d) Clitoria
- 340) Vexillary aestivation is common in flowers of -----  
 a) Clitoria      b) Salvia      c) Caesalpinia      d) Shinorose
- 341) The fusion of stamens on sepals is called ----- condition.  
 a) Cpipetalous      b) pisepalous      c) epiphyllous      d) inferior
- 342) The fusion of Stamens with petals is called ----- condition

- a) epipetalous      b) gynostegium      c) epipetalous      d) episepalous
- 343) Adhesion between androecium and gynoecium is called -----  
a) gynostegium      b) monoadelphy      c) diadelph      d) polyadelph
- 344) Disc florets of sunflower shows ----- stamens  
a) Synandrous      b) syngenesious  
c) polyadelphous      d) monadelphous
- 345) ----- pistil is present in Michelia  
a) syncarpous      b) apocarpous      c) tricarpellary      d) bicarpellary
- 346) ----- placentation is present in sunflower  
a) marginal      b) basal      c) axile      d) parietal
- 347) When micropyle, Chalaza and funiculus lie in one straight vertical line; the ovule is termed as -----  
a) campylotropous      b) circinotropous  
c) anatropous      d) orthotropous
- 348) ----- type of fruit is present in sunflower  
a) cypsela      b) achene      c) caryopsis      d) Samara
- 349) ----- exhibit samara type of fruit  
a) Terminalia arjuna      b) sunflower      c) maize      d) cypsela
- 350) Mustard shows ----- type of fruit  
a) Siliqua      b) drupe      c) capsule      d) follicle
- 351) Ocimum shows ----- type of fruit  
a) carcerule      b) drupe      c) regma      d) Lomentum
- 352) Acacia fruit is called -----  
a) Reqwa      b) carcerule      c) cremocarp      d) Lomentum
- 353) Coconut exhibit ----- fruit  
a) fibrous drupe      b) regma      c) cremocarp      d) Lowentum
- 354) Cucurbita shows ----- of fruit  
a) regma      b) pepo      c) carcerule      d) cremocarp
- 355) Michelia shows -----  
a) Etaerio of follicles      b) Elaerio of achenes  
c) Etaerio of dmpe      d) Sorosis
- 356) Etaerio of berries is present in -----  
a) China rose      b) Datura      c) Anona      d) Ocimum

- 357) Fruit of fig is called -----  
 a) Sorosis                      b) Syconus      c) drupe              d) Pepo
- 358) Mulberry shows ----- type of fruit  
 a) etaerio of berries                                      b) etaerio of blrapes  
 c) etacrio of achenes                                      d) etaerio of follicles.
- 359) A term plant taxonomy was coined by -----  
 a) A.P. deCandolle                                      b) Bentham and Hooker  
 c) Hutchinson    d) Linnaeus
- 360) In 1565, *Garcia d'orta* published and translated a book ----- in Latin language.  
 a) Indian Medicinal plants      b) Indian ornamental plants  
 c) Indian herbaceous plants      d) Indian trees
- 361) Indian Botanic Garden was established by ----- in 1787.  
 a) Leut.col. Robert Kyd      b) Roxburgh                      c) Calder              d) Wallich
- 362) Indian botanic Garden is situated at -----  
 a) Calcutta                      b) Lucknow                      c) Darjeling      d) Coimbatore
- 363) ----- tree appear like tiny forest in Indian Botanic Garden, Calcutta.  
 a) Fig                      b) Indian rubber                      c) Banyan                      d) Margosa
- 364) ----- are the wonder of Indian Botanic Garden, Calcutta.  
 a) Giant water lilies      b) Bamboos                      c) Roses                      d) Phlox
- 365) National Botanic Garden, Lucknow was established by -----.  
 a) Sadat Ali Khan      b) Roxburgh                      c) Wallich                      d) Calder
- 366) Lead botanical Garden was funded by ----- to Shivaji University, Kolhapur in 1996.  
 a) MoEF      b) DBT                      c) DST                      d) UGC
- 367) Bentham and Hooker published -----.  
 a) Genera plantarum                      b) Indian trees  
 c) Indian Meteria Medica                      d) Indian herbs
- 368) Radial voscular bundles are present in -----  
 a) Sunflower stem      b) Maize stem      c) Jowar stem      d) Maize root.
- 369) ----- is present in vascular bundle of Maize stem.  
 a) bundle sheath                                      b) sclerenchynatous  
 c) lignin sheath    d) collenchymate sheath.
- 370) Hypodermis in maize stem is made up of -----  
 a) parenchyma                      b) collenchyma                      c) sclerendyma                      d) chlorenchyma

- 371) When cambium is absent vascular bundle it is called -----  
 a) bicollateral      b) closed      c) open as well as closed      d) only open
- 372) Tetrarch vascular bundles are present in -----  
 a) sunflower roots      b) sunflower stem  
 c) maize stem      d) maize root
- 373) Starch sheath is present in covtex of ----- stem  
 a) sunflower   b) maize      c) jowar      d) wheat
- 374) Hard bast is made up of -----  
 a) parenchyma      b) collenchyma      c) xylem      d) sclerenchyma
- 375) Adaptive abnormal secondary growth is found in -----stem.  
 a) Bignonia      b) Dracaena      c) Yucca      d) Aloe
- 376) Non-adaptive abnormal secondary growth is found in ----- stem.  
 a) Dracaena      b) Bignonia      c) Serjania      d) sunflower.
- 377) Cap cells are present in alga -----.  
 a) Sargassum      b) Nostoc  
 c) Oedogonium      d) Spirogyra
- 378) Male and Female conceptacles are present in -----.  
 a) Oedogonium      b) Spirogyra  
 c) Sargassum      d) Nostoc
- 379) The antibiotic Penicillin is obtained from -----.  
 a) Penicillium      b) Mucor  
 c) Aspergillus      d) Puccinia
- 380) Puccinia is a -----.  
 a) Saprophyte      b) Ectoparasite  
 c) Obligate Parasite      d) Facultative Parasite
- 381) Lichens are formed by Symbiotic association between alga and -----.  
 a) bacteria      b) fungus  
 c) bryophyte      d) pteridophyte
- 382) Sexual reproduction in Anthoceros is -----.  
 a) isogamous      b) anisogamous  
 c) oogamous      d) plasmogamous
- 383) Mushrooms produce -----.  
 a) ascospores      b) conidiospores











- a) Cytosol  
c) mitochondria
- b) Endoplasmic reticulum  
d) chloroplast
- 438) Nitrogen is converted to ammonia in presence of ----- enzyme.  
a) peroxidase  
c) ligase
- b) catalase  
d) Nitrogenase
- 439) Healthy root nodules in leguminous plants are pink due to presence of red pigment called -----.  
a) haemoglobin  
c) anthocyanin
- b) leghaemoglobin  
d) cyanophycin
- 440) Naturally occurring hormone present in coconut milk is called -----.  
a) Abscisin  
c) Gibberellin
- b) Ethylene  
d) Gytokinin
- 441) The substance responsible for flowering stimulus is known as -----.  
a) Kinetin  
c) Vernalin
- b) florigen  
d) Abscisin
- 442) ----- is essential for fixation of atmospheric nitrogen.  
a) Zinc  
c) Molybdenum
- b) Nickel  
d) Copper
- 443) ----- deficiency is responsible for physiological disease like mottled chlorosis.  
a) Magnesium  
c) Manganese
- b) Molybdenum  
d) Chlorine
- 444) Kranz anatomy is seen in ----- plants.  
a) C<sub>3</sub>  
c) CAM
- b) C<sub>4</sub>  
d) CAM and C<sub>3</sub>
- 445) ----- is the site of photochemical reactions in chloroplast.  
a) Ribosomes  
b) Chromosome
- b) Lysosome  
d) Quantasomes
- 446) ----- enzyme catalyzes the reduction of Nitrogen to ammonia.  
a) Nitrogenase  
c) Catalase
- b) Peroxidase  
d) nitrate reductase
- 447) The growth curve is usually referred as ----- curve.  
a) sigmoid  
c) - shaped
- b) rhomboid  
d) V-shaped.
- 448) The naturally occurring hormone in coconut milk is -----.  
a) ethylene  
c) abscisin
- b) cytokinin  
d) auxin
- 449) The shrinkage of protoplasm due to loss of water is known as -----  
a) Endosmosis  
c) Exosmosis
- b) plasmolysis  
d) transpiration
- 450) The botanical name of Lucerne is -----.  
a) Medicgo sativa  
c) Phaseolus vulgaris
- b) Cymbopogon nardus  
d) Stylosanthes guyanensis
- 451) Coconut oil is obtained from ----- part of fruit.



- 466) Chlorosis usually occurs -----.
- a) in strong light  
b) in dark  
c) due to excessive respiration  
d) due to deficiency of Mg and Fe
- 467) Process of selective transmission of liquid through semipermeable membrane is called as -----.
- a) Difusion  
b) Osmosis  
c) Plasmolysis  
d) Transmission
- 468) Which of the following is a micronutrient ----- .
- a) Na  
b) K  
c) Ca  
d) Cu
- 469) For the synthesis of organic matter the green plants need -----.
- a) Light  
b) Chlorophyll  
c) CO<sub>2</sub>  
d) All of these
- 470) ATP formation during the photosynthesis is termed as -----.
- a) Phosphorylation  
b) Photophosphorylation  
c) Oxidative photophosphorylation  
d) Non of these
- 471) Enzyme ----- catalyze the reduction of Nitrogen to Ammonia.
- a) Nitrogenase  
b) Nitrate reductase  
c) Protease  
d) Ligase
- 472) Vernalization is the effect of ----- on flowering.
- a) room temperature  
b) atmospheric pressure  
c) low temperature  
d) high temperature
- 473) The hypothetical chemical involved in flowering in plans is -----.
- a) IAA  
b) GA  
c) Kinetin  
d) Florigen
- 474) ----- are the micronutrients to the plants.
- a) N, P, K  
b) Cu, Fe, Mn  
c) Ca, K, Na  
d) C, N, O
- 475) During night, the stomata are open in -----.
- a) C<sub>3</sub> plants  
b) C<sub>4</sub> plants  
c) C<sub>3</sub> and C<sub>4</sub> plants  
d) CAM plants
- 476) ----- number of elements are called essential elements.
- a) 17  
b) 20  
c) 25  
d) 30
- 477) In photosynthesis light is converted to -----.
- a) Kinetic energy  
b) Chemical energy  
c) Radiant energy  
d) Photochemical energy
- 478) Naturally occurring hormone in coconut is -----.
- a) Auxin  
b) Gibberellin  
c) Cytokinin  
d) Ethylene
- 479) Phycobilins are found in -----.
- a) Algae  
b) Fungi









- d) both 'a' & 'b'
- 520) ----- enzymes is essential to remove phosphate groups  
a) alkaline phosphatase b) acid phosphatase c) ligase d) endonuclease
- 521) Nucleases are the enzymes that break the ----- bonds of DNA  
(a) Hydrogen b) phosphodiester c) Carbon d) Hydrogen and carbon
- 522) ----- are the good examples of endonucleases  
a) Restriction endonucleases b) Primase  
c) helicase d) exonucleases
- 523) ----- cuts either single or double stranded DNA molecules of random sites.  
a) Deoxyribonuclease-I b) alkaline phosphatase  
c) acid phosphatase d) helicase
- 524) ----- groups of enzymes that catalyse synthesis of nucleic acid molecules.  
a) Endonucleases b) Exonuclease c) Polymerases d) primase
- 525) RNA specific nucleases are referred to as -----  
a) DNase b) RNases c) phosphatase d) helicase
- 526) ----- are extra chromosomal, double stranded, circular, self replicating DNA molecules.  
a) bacteriophages b) virions c) plasmids d) Cosmids
- 527) Plasmids carrying set of transfer genes are called ----- plasmid.  
a) Conjugative b) Non-conjugative c) fusitive d) negative.
- 528) Plasmids carrying genes resistant to antibiotics are referred to as -----  
a) F-plasmids b) R-plasmids c) S-plasmids d) Phage
- 529) ----- are the vectors possessing the characteristics of both plasmids and bacteriophage  
a) Virion b) *E.coli* c) Cosmids d) Phasids.
- 530) ----- introduced yeast artificial chromosome (YAC) which is a synthetic DNA that can accept large fragments of foreign DNA.  
a) M. Olson b) Sanger c) Boyer d) Boyer and Cohen
- 531) The southern blotting is named after the scientist -----  
a) Ed. Southern b) Olson c) Gilbert d) Sanger
- 532) ----- technique is important for the confirmation of DNA cloning results.  
a) Ed southern blotting b) Northern blotting  
c) Western blotting d) Northern & Western blotting



- a) Southern blotting   b) Northern blotting  
 c) Western blotting      d) Eastern blotting
- 545) Enzyme which acts like a Scissor in genetic engineering is -----  
 a) Ligase      b) Transcriptase      c) Exonuclease      d) Endonuclease
- 546) Vector used to carry foreign DNA in genetic engineering are -----  
 a) Plasmid      b) phage      c) Viruses      d) All of these
- 547) Restriction enzymes have been found in -----  
 a) humans      b) birds      c) bacteria      d) bacteriophages
- 548) ----- of the following cell organelle is associated with genetic engineering.  
 a) Centriole      b) Mitochondria      c) Plasmid      d) Chloroplast
- 549) Bacterial resistance to antibiotic is a genetic trait carried in the bacterial -----  
 a) Intrun      b) plasmid      c) centromere      d) telomere
- 550) Collection of bacteria with gDNA is called -----  
 a) DNA clones      b) DNA library      c) cDNA library  
 d) Genomic DNA library
- 551) DNA fingerprinting is very useful for -----  
 a) Forensic studies      b) tests of identity and relationships  
 c) Polymorphism      d) All of these
- 552) DNA sequencing is -----  
 a. Nucleotide or base sequence of a mRNA fragment.  
 b. Nucleotide or base sequence of a DNA fragment.  
 c. Nucleotide design of DNA fragment  
 d. Nucleotide or base sequence of t-RNA.
- 553) Collection of cloned DNA segments from complete genome is called -----  
 a) DNA library      b) Genomic bank  
 c) Gene bank      d) both 'b' & 'c'
- 554) The genetically transformed new plants are regarded -----  
 a) transgenic plants      b) mutant plants  
 c) hybrids      d) Cybrids
- 555) The most common vector used for genetic transformation is -----  
 a) Rhizobium      b) *E. coli*      c) *Agrobacterium tumefaciens*      d) Plasmid
- 556) ----- is a soil born gram negative bacterium used as vector in transgenesis.  
 a) *Agrobacterium*      b) *Pseudomonas*      c) *Neurospora*      d) *Saccharomyces*

- 557) *Agrobacterium tumefaciens* induces crown gall through releasing ----- into plant tissues.
- a) Cosmid                      b) Phasid                      c) Ti-plasmid                      d) viriod
- 558) A segment of Ji plasmid is referred as -----
- a) C-DNA                      b) T-DNA                      c) rRNA                      d) mRNA
- 559) T-DNA carries genes that ----- for proteins involved in biosynthesis of auxin and -----
- a) ABA                      b) IBA                      c) GA d) Cytokinin
- 560) T-DNA is responsible for biosynthesis of metabolites like opines (amino acid derivatives) and ----- derivatives like agropines, in *Agrobacterium* affected tissues.
- a) Protein                      b) lipid                      c) sugar                      d) All of these
- 561) *Agrobacterium* cells consists ----- as independently replicating circular DNA.
- a) cosmids                      b) virioids                      c) Ti plasmids                      d) Phagids
- 562) T-DNA has genes for biosynthesis of auxin, cytokinin and opine, these genes are referred as ----- which are determinants of tumour phenotype.
- a) jumping genes                      b) nifaenes                      c) Oncogenes d) regular genes
- 563) *Agrobacterium* produce ----- in affected plant tissue.
- a) virulence proteins b) nucleic acids                      c) Organic acids d) GA
- 564) *Agrobacterium* mediated 'transformation is ----- method of gene transfer.
- a) natural                      b) artificial                      c) chemical                      d) Physical
- 565) ----- genes are used for resistance to glyphosate in transformed plasma.
- a) epsps gene b) bxn gene                      c) aada gene                      d) ble gene
- 566) The use of recombinant DNA technology to transfer & insert desired gene from one organism into another organism to confer the new traits is called -----.
- a) Genetic engineering                      b) Transgenesis  
c) Mutagenesis                      d) Sporogenesis
- 567) The foreign gene which is inserted into plant is called as -----.
- a) Vector                      b) Plasmid  
c) Transgene                      d) nif-genes
- 568) The process of transfer of transgene is called -----.
- a) Genetic engineering                      b) Transgenesis  
c) mutagenesis                      d) Cytokinensis
- 569) Genes for insect resistance from ----- have been used to produce transgenic plants.





- 592) In human, two chromosomes are -----
- a) genetically different                      b) functionally different  
c) morphologically different   d) all of these
- 593) Hardy Weinberg Law is also called as law of -----
- a) segregation                                      b) independent assortment  
c) equilibrium                                      d) mutation
- 594) Chromosomes related with sex determination are -----
- a) heterosomes                                      b)  $\beta$ -chromosomes  
c) autosomes                                      d) oxysomes
- 595) An autosome is -----
- a) chromosomes other than sex              b) half of a sex chromosome  
c) sex chromosome                              d) oxysome
- 596) The sex determination system in which males (XY) and females (XX) is found in all -----
- a) unicellular organisms                      b) vertebrates  
c) mammals                                      d) animals
- 597) The sex chromosomes are segregated during -----
- a) meiosis    b) mitosis    c) linkage    d) crossing over
- 598) A man receives his 'x' chromosome from -----
- a) his mother only                              b) his father only  
c) either his mother or his father        d) both his father and mother
- 599) There are about ----- main types of sex expression in higher plants.
- a) 5                      b) 10                      c) 8                      d) 20
- 600) Mc Clung reported that, ----- is involved in sex determination
- a) Y body    b) 'x' body    c) X and Y body    d) only 'Y' body
- 601) In ----- organisms there are two types of chromosomes (autosomes and sex chromosomes)
- a) dioecious                                      b) monoecious  
c) andromonoecious                      d) gynomonecious
- 602) Y chromosomes has small amount of ----- and large amount of heterochromatin
- a) ribosomes    b) nucleosomes                      c) oxysomes    d) euchromatin
- 603) The chromosomes responsible for determination of sex are called -----
- a) autosomes    b) sex chromosome    c) nucleosomes                      d) oxysomes
- 604) The phenotypic characters (traits) of different organisms may be of qualitative and ----

- a) supplementary    b) complementary    c) quantitative    d) inhibitory
- 605) Quantitative inheritance show -----  
 a) dominance    b) no epistasis    c) linkage    d) mutation
- 606) In Quantitative Inheritance there is no involvement of -----  
 a) linkage    b) recessiveness  
 c) only recessiveness    d) only dominanceness
- 607) ----- is a single gene effect  
 a) qualitative    b) quantitative  
 c) cumulative    d) only quantitative
- 608) Each contributing allele in series of multiple genes produce ----- effects.  
 a) equal    b) unequal  
 c) medium    d) equal as well as unequal
- 609) Quantitative trait is called -----  
 a) Polygene    b) barnase gene    c) lethal gene    d) nif-gene
- 610) Polygene term was coined by -----  
 a) Muller    b) Morgan    c) Stevens    d) K. Mather
- 611) ----- is essential for knowing evolution in the species  
 a) population genetics    b) cell biology  
 c) biophysics    d) biochemistry
- 612) By following Hardy Weinberg Law the genotype frequency in the next generation will be -----  
 a) 2    b) half    c) one    d) 1.5
- 613) The Hardy Weinberg Law proves, ----- equilibrium is maintained.  
 a) phenotypic    b) genetic  
 c) only phenotypic    d) phenotypic and genotypic
- 614) ----- responsible for cytoplasmic inheritance in *Mirabilis jalapa*  
 a) Ribosomes    b) Mitochondria    c) Plastid    d) Golgibodies
- 615) ----- plays important role in extra chromosomal inheritance  
 a) Nucleus    b) Cytoplasm    c) Plastid    d) plasma membrane
- 616) The cytoplasmic units of inheritance are called -----  
 a) lethal genes    b) jumping genes    c) plasma genes    d) nif genes
- 617) Albinism in corn is due to -----  
 a) mineral deficiency    b) high temperature effect  
 c) cytoplasmic inheritance    d) low intensity of light



- 618) Extra-nuclear genetic material is present in -----  
 a) nucleus    b) nuclear membrane    c) cell membrane    d) cytoplasm
- 619) ----- are responsible for plastid inheritance  
 a) chloroplast DNA                      b) mitochondria  
 c) t-RNA                                      d) r-RNA
- 620) Variegated coloration of leaves was first studied by -----  
 a) K. Correns    b) Muller    c) Bateson    d) Punnet
- 621) In higher eukaryotes, traits coded for extranuclear inheritance are inherited solely from -----  
 a) Nucleus                                      b) Plasma membrane  
 c) Nuclear membrane                      d) Females gametes
- 622) ----- and chloroplast organelles responsible for cytoplasmic inheritance  
 a) Lysosomes                                      b) Golgibodies  
 c) Mitochondria                                      d) Endoplasmic reticulum
- 623) Genetic variations are essential for -----  
 a) deviation                      b) alteration                      c) evolution    d) selection
- 624) Repetition of chromosomal segment is known as -----  
 a) translocation    b) transformation    c) transduction    d) duplication
- 625) Mutual exchange of chromosome segments between non-homologous chromosomes is called -----  
 a) deletion    b) duplication                      c) Inversion                      d) translocation
- 626) Rearrangement of a group of genes in a chromosome in reverse order is called -----  
 a) deletion    b) deficiency                      c) duplication                      d) Inversion
- 627)  $2n+1$  chromosome number indicates -----  
 a) monosomy    b) bisomy                      c) trisomy                      d) nullisomy
- 628)  $2n-2$  number of chromosome number indicates -----  
 a) monosomy    b) nullisomy    c) trisomy                      d) tetrasomy
- 629) Reverse sequence of genes in a chromosome is observed in -----  
 a) Inversion                      b) duplication                      c) translocation                      d) deletion
- 630) Occurrence of three or more sets of chromosome in somatic cells is called -----  
 a) polyploidy    b) tetraploidy    c) triploidy    d) diploidy
- 631) Trisomy is expressed as -----  
 a)  $2n+1$                       b)  $2n-1$                       c)  $2n-2$                       d)  $2n+2$

- 632) Loss of single chromosome, create a condition called -----  
 a) diploidy                      b) bisomy                      c) monosomy    d) tetraploidy
- 633) Cultivated wheat is an example of -----  
 a) allohexaploid      b) amphidiploid      c) triploid                      d) autotetraploid
- 634) Datura is a classical example of -----  
 a) monosomy    b) trisomy                      c) nullisomy                      d) tetraploidy
- 635) ----- are said to be more useful than other polyploids due to they are sterile and show more vigour.  
 a) tetraploids    b) hexaploids    c) triploid                      d) monoploid
- 636) Raphanobrassica is an -----  
 a) autopolyploid      b) allopolyploid      c) hexaploid                      d) tetraploid
- 637) Chromosomal aberrations are commonly found in -----  
 a) maize                      b) onion                      c) Rheo                      d) Jowar
- 638) Dicentric chromosome forms ----- during meiosis  
 a) bridge    b) complete ring  
 c)  $\infty$  like figure                                      d) non-homologous pair
- 639) ----- is found in duplication type of chromosome aberrations  
 a) linkage                      b) crossing over      c) laggard      d) position effect
- 640) Numerical + chromosomal aberrations involve change in ----- of chromosomes.  
 a) number                      b) structure                      c) shape                      d) position
- 641) ----- is an example of monosaccharides  
 a) Sucrose                      b) Lactose                      c) Glucose                      d) Starch
- 642) Starch is composed of -----  
 a) amylose                      b) amylose and amylopectin      c) pectin                      d) suberin
- 643) Cellulose is composed of -----  
 a) amylose                      b) fructose                      c) glucose                      d) lactose
- 644) ----- is the general formula of monosaccharides  
 a)  $C_{12}H_{22}O_{11}$     b)  $(C_6H_{10}O_5)_n$                       c)  $C_n H_{2n}O_n$     d)  $C_6H_{12}O_3$
- 645) ----- have free / potential aldehyde or ketone group in its structure.  
 a) reducing sugars                      b) non-reducing sugars  
 c) trisaccharides                      d) lipids
- 646) ----- is the main constituent of cell wall in plants  
 a) starch                      b) pectin                      c) suberin                      d) cellulose



- c) Phosphorus & Calcium                      d) Nitrogen, phosphorous & sulphur
- 660) An unsaturated fatty acid having minimum molecular weight is -  
 a) Linolenic                      b) Crotonic                      c) Oleic                      d) Behenic
- 661) The terpenes are also called -  
 a) Sterane                      b) Isoprenoids c) Steroids                      d) Sex hormones
- 662) Which of the following is not a saturated fatty acid ?  
 a) Gibberellic acid    b) Carotenoids                      c) latex d) glucose
- 663) Which of the following is important in oxidative & fat metabolism ?  
 a) Pyruvic acid                      b) Glucose                      c) Acetyl coA d) CO<sub>2</sub>
- 664) Those lipids which are formed by the combination of fatty acids & carbohydrates are called -----  
 a) Glycolipids    b) Sphingolipids  
 c) Compound lipids                      d) Derived lipids
- 665) When fatty acids having odd number of carbons are oxidized it is called  
 a) β-oxidation    b) ∞-oxidation  
 c) α-oxidation    d) γ-oxidation
- 666) The number of fatty acid molecules condensing with glycerol to form the simple lipid  
 a) One                      b) three                      c) two                      d) four
- 667) In the syntheses of triglycerids, there is participation of -  
 a) Acetyl CoA & ATP    b) Acetyl CoA, NADPH & ATP  
 c) Acyl CoA & NADPH    d) Acyl CoA & ATP
- 668) Lipids are esters of ----- and glycerol.  
 a) saturated fatty acid    b) unsaturated fatty acid  
 c) neither saturated nor unsaturated fatty acids    d) essential oil
- 669) ----- is a common sterol found in mammals.  
 a) Ergosterol                      b) Cholesterol c) Carotenoids                      d) xanthin
- 670) ----- introduced the word Protein.  
 a) Sanger                      b) Moalder                      c) Watson & Crick                      d) Crick
- 671) The number, Nature and sequence of Amino Acid molecules in a polypeptide chain is called ----- structure.  
 a) Primary    b) secondary  
 c) tertiary    d) Quaternary
- 672) ----- is the example of secondary structure of Protein

- a)  $\alpha$ - helix &  $\beta$ -pleated sheet                      b) Globular proteins  
 c) Glycine    d) Lysine.
- 673) ----- proteins have an N-terminal signal peptide which target the proteins to be synthesized  
 a) Secretory proteins                      b) Plasma membrane proteins  
 c) Lysosomal proteins                      d) plasma globulin.
- 674) ----- is the example of fibrous proteins  
 a) Albumin                      b) fibrinogen                      c) Plasma globulin d) None of these.
- 675) Albumin is -----  
 a) Globular proteins                      b) fibrous proteins  
 c) Both of these    d) None of these.
- 676) The operon model of gene regulation and organization in Prokaryotes was proposed by -----  
 a) Jacob & Monod    b) Beadle & Tatum  
 c) Messelson & Stahl    d) Wilkins & Franklin
- 677) Proteins are formed by the condensation of -----  
 a) fatty acids    b) Amino acids  
 c) Carbohydrates    d) Nucleic acids
- 678) Transcription is -----  
 a. Recognition of base sequence on m-RNA  
 b. Transfer of genetic information from DNA to m-RNA  
 c. Recognition of amino acid by RNA synthesis  
 d. Assembly of amino acids by m-RNA in the form of polypeptide.
- 679) Translation is -----  
 a. formation of protein from RNA  
 b. formation of DNA from DNA  
 c. formation of RNA from DNA  
 d. formation of DNA from RNA
- 680) Transcription of DNA is aided by -----  
 a) RNA polymerase                      b) DNA polymerase  
 c) Exonuclease    d) Recombinase
- 681) Amino acid sequence in Protein synthesis is decided by -----  
 a) t-RNA                      b) s-RNA                      c) m-RNA                      d) r-RNA
- 682) The prokaryotic RNA polymerase comprises a core enzyme combined with the

comprises factors

- a) Sigma      b) Omega      c) alpha      d) Delta
- 683) The codons causing chain termination are -----  
a) TAG, TAA, TGA                      b) GAT, AAT, AGT  
c) AGT, TAG, VGA                      d) UAG, UGA, UAA
- 684) Intron is a part of DNA which -----  
a) Codes for protein synthesis              b) helps in forming prices of DNA  
c) Initiates transcription                      d) does not code of protein synthesis
- 685) Reverse transcriptase is -----  
a. DNA dependent RNA polymerase  
b. DNA dependent DNA polymerase  
c. RNA dependent DNA polymerase  
d. RNA dependent RNA polymerase
- 686) In operon concept regulator gene functions as -  
a) Repressor              b) Regulator              c) Inhibitor      d) All the above.
- 687) The RNA that picks up specific amino acid from amino acid pool in the cytoplasm to ribosome during protein synthesis is called -----  
a) m-RNA      b) t-RNA      c) r-RNA      d) DNA
- 688) In splits genes; the coding sequences are called -----  
a) operon      b) Introns                      c) Cisrons      d) Exons
- 689) Repressor is the product of -----  
a) Operator gene                                      b) structural gene  
c) promoter gene                                      d) regulator gene
- 690) The site of t-RNA which binds it to m-RNA molecule is -----  
a) 5' end      b) 3' end      c) Codon      d) Anticodon
- 691) The Polypeptide chain is initiated by -----  
a) Glycine      b) Lysine      c) Methionine      d) Leucine
- 692) Transcription involves synthesis of -----  
a) m-RNA      b) t-RNA      c) r-RNA      d) DNA
- 693) Lac operon is -----  
a) Repressible operon                                      b) Inducible operon  
c) Arabinose operon                                      d) Overlapping gene
- 694) The length of m-RNA that carries information of complete polypeptide synthesis is



- 705) In DNA, base pairing occurs as -----  
 a) Thymine with adenine                      b) Cytosine with cytosine  
 c) Adenine with thymine                      d) cytosine with
- 706) The nitrogenous purine base occurring in RNA is -----  
 a) Guanine                      b) Thymine      c) Uracil              d) Cytosine
- 707) DNA contains a -----  
 a) five carbon sugar                                      b) Six carbon sugar  
 c) Four carbon sugar                      d) Chain of nucleosides
- 708) Synthesis of DNA takes place by -----  
 a) Transduction      b) Transcription      c) Transformation      d) Replication
- 709) If the base sequence in one polynucleotide series of DNA is G-C-A-T-G, what shall be sequence in the replicated complementary strand ?  
 a) G-C-A-T-G                                      b) C-G-T-A-C  
 c) A-T-G-C-G                                      d) G-C-A-T-C
- 710) The structure of DNA was given by -----  
 a) Wilkins                      b) Watson & Crick      c) Muller              d) Morgan
- 711) The difference of RNA from DNA is in the -----  
 a) Purine      b) Pentose sugar      c) Pyrimidine      d) Nucleotides
- 712) DNA was synthesized in vitro by -----  
 a) A. Kornberg              b) A. Garrod      c) J.D. Watson              d) H.G Khorana
- 713) Nucleotides are formed of -----  
 a. Purine & Pyrimidine bases & phosphates  
 b. Pyrimidine, sugar & phosphates  
 c. Pyrimidine, sugar & phosphates  
 d. Purine, pyrimidine bases, sugar & phosphates
- 714) The nitrogen bases in DNA are -----  
 a) AUGC      b) UTGC      c) ATGC      d) ATUC
- 715) A nucleoside differs from a nucleotide in not having -----  
 a) phosphate                      b) sugar              c) Nitrogen base              d) Phosphate & sugar
- 716) The diameter of DNA molecule is -----  
 a) 50 Å      b) 20 Å      c) 100 Å      d) 200 Å
- 717) The two strands of DNA are bound by -----  
 a) phosphate - diester bonds      b) Covalent bonds









- a) producing RNA primer    b) separation of DNA strands  
 c) providing nick in DNA                      d) joining the DNA segments
- 756) Okazaki segments are small -----  
 a) segments of RNA                      b) segments of DNA  
 c) small DNA segments formed over DNA template running over 3-s direction.
- 757) Okazaki fragments give rise to -----  
 a) master strand      b) Lagging strand      c) sense strand    d) Leading strand
- 758) Leading strands during DNA replication is formed -----  
 a) first              b) continuously              c) Ahead of replication  
 d) In short segments
- 759) Formation of RNA over the temptate of DNA is -----  
 a) replication                      b) transversion  
 c) translation                      d) transcription
- 760) The process of multiplication of DNA from DNA is known as -----  
 a) replication    b) transversion                      c) translation    d) transcription
- 761) The area of unwinding and separation of DNA strands during replication is called -----  
 -----  
 a) Initiation point    b) origin              c) primer              d) replication fork
- 762) Two strands of DNA are -----  
 a) similar & parallel    b) similar but not parallel  
 c) complementary and anti-parallel    d) complementary and parallel
- 763) DNA acts as template for synthesis.  
 a) DNA      b) RNA              c) Protein      d) DNA and RNA
- 764) Meselson - stahl experiment confirm that DNA replication is -----  
 a) Conservative                      b) semi-conservative  
 c) Not conservative    d) Not semi-conservative
- 765) In post replication repair of DNA molecules, there is first cross strand exchange and then -----  
 a) excision repair    b) Incision repair  
 c) excision and incision repair                      d)
- 766) Replication errors are fortunately corrected by -----  
 a) primase    b) ligase              c) DNA polymerase    d) helicase
- 767) Eukaryotes have -----  
 a.      One promoter in gene structure





- c) a functional unit of DNA d) all of these.
- 790) In operon model regulator gene functions as ----- A functional unit of DNA  
 a) Regulator b) Inti c) Repressor d) stimulator
- 791) ----- are called ray fungi.  
 a) basidiomycetes b) actinomycetes c) deuteromycetes d) ascomycetes
- 792) Bacteria growing in hotwater springs are called -----.  
 a) thermophiles b) halophiles c) lithophytes d) cryophytes
- 793) Cell wall of actiomycetes is made up of -----.  
 a) chitin b) cellulose c) lipo-protein d) peptidoglycon
- 794) Pleomorphism is one of the characteristics of -----.  
 a) Phytoplasma b) viruses c) fungi d) actinomycetes
- 795) Triple layered cell membrane of phytoplasma contains-----.  
 a) lipids b) glycan c) mannitol d) sterol
- 796) Fungi cell wall is made up of -----.  
 a) chitin b) cellulose c) hemicellulose  
 d) fungal cellulose and chitin
- 797) Phytoplasma can be stained with -----stain.  
 a) safranin b) cotton blue c) diene's blue d) crystal violet
- 798) The genetic material of viruses is -----.  
 a) Only DNA b) either DNA or RNA c) only RNA d) DNA & RNA
- 799) Phytoplasma are -----.  
 a) saprophytes b) facultative saprophytes  
 c) obligate parasites d) facultative parasites
- 800) Viruses are -----.  
 a) saprophytes b) obligate intracellular parasites  
 c) facultative parasites d) facultative parasites
- 801) Viruses multiplies in -----.  
 a) culture medium b) dead tissue c) living tissue d) soil
- 802) Bacteria producing heat resistant structure called -----.  
 a) capsules b) endospores c) exospores d) aplanospores
- 803) Bacteria commonly reproduce vegetatively by -----.  
 a) conjugation b) budding c) binary fission d) chlamydospores







- 832) The disease occurring irregularly in relatively few instances are called -----.
- a) epidemic    b) endemic                      c) epiphytotic d) sporadic
- 833) Symptoms like dwarfing and rosetting considered under -----.
- a) wilting      b) necrosis                      c) dieback                      d) hypoplasia
- 834) Witchesbroom / phyllody are classified under -----.
- a) shot holes                      b) necrosis      c) hypertrophy                      d) dieback
- 835) ----- is known as yellowing.
- a) greening of leaf tissue                      b) distortion of leaf tissue
- c) disintegration of chlorophylls                      d) disintegration of tissue
- 836) Disintegration of chlorophylls from leaves is referred as -----.
- a) chlorosis    b) matting                      c) malformation                      d) dwarfing
- 837) Diseases of pulses are classified as -----.
- a) pulses crop diseases                      b) vegetable crop diseases
- c) cash crop diseases                      d) fruit crop diseases
- 838) Diseases transmitted through soil are referred as -----.
- a) air borne diseases                      b) soil borne diseases
- c) water borne diseases                      d) seed borne diseases
- 839) Pathogen transmitted through seed is called -----.
- a) seed borne                      b) soil borne
- c) air borne                      d) water borne
- 840) Viral diseases are transmitted by -----.
- a) soil                      b) seed                      c) air                      d) insect vector
- 841) Pathogens causing are ----- soil borne.
- a) wilting                      b) necrosis                      c) die back                      d) phyllody
- 842) Root knots are the example of -----.
- a) necrosis                      b) dwarfing                      c) hypertrophy                      d) motting
- 843) ----- is used as a natural culture medium.
- a) PDA                      b) CDA                      c) Sabourds medium    d) Potato cylinders
- 844) ----- is a semisynthetic medium.
- a) PDA                      b) CDA                      c) Hogland medium    d) Richards medium
- 845) ----- invented pasteurisation method of sterilisation.
- a) Louis pasteur                      b) Richard                      c) Sabourds                      d) Hogland
- 846) Steam sterilization is done under pressure at ----- temp. using autoclave.

- a) 121<sup>0</sup>c      b) 120<sup>0</sup>c      c) 100<sup>0</sup>c      d) 131<sup>0</sup>c
- 847) Steam sterilisation is done under ----- pressure.  
a) 15 lbs      b) 20 lbs      c) 10 lbs      d) 30 lbs
- 848) Delicate surgical implements are sterilized by -----.  
a) autoclave      b) hot air      c) radiations      d) direct heat
- 849) Liquid media sensitive to heat are sterilized by -----.  
a) autoclave      b) tyndalisation      c) pasteurisation      d) radiation
- 850) Glasswares are sterilized by using -----.  
a) strong acids      b) alkalis      c) radiation      d) direct heat
- 851) Soil borne organisms are cultured by using -----.  
a) leaf cut method      b) tissue cut method  
c) soil dilution method      d) streak method
- 852) Agar is used as ----- in culture media.  
a) solidifying agent      b) liquefying agent  
c) chelating agent      d) nutritive agent
- 853) Dextrose in PDA is a source of ----- to organisms.  
a) nitrogen      b) sulphur      c) carbon      d) potassium
- 854) Agar Agar is obtained from -----.  
a) Gracillaria      b) Oscillatoria      c) Sargassum      d) Batrachospermum
- 855) Grassy shoot of sugarcane is caused by -----.  
a) bacteria      b) fungi      c) Phyoplasma      d) viruses
- 856) Casual organism of leaf spot of turmeric is -----.  
a) Cercospora personata      b) Colletotrichum falcatum  
c) Taphrina maculans      d) Sphacelotheca sorghi
- 857) Casual organism of yellow vein mosaic of bhendi is -----.  
a) Colletotrichum fulcatum      b) Xanthomonas campestris  
c) Yellow vein mosaic virus      d) Mycoplasma like organisms
- 858) Grain smut is caused by -----.  
a) Ustilago scitamineae      b) Colletotrichum lindemuthianum  
c) Colletotrichum fulcatum      d) Sphacelotheca sorghi
- 859) Downy mildew of bajra is also called -----.  
a) white rust disease      b) red rust disease

- c) brown rust disease                      d) green ear disease
- 860) Grassy shoot disease of sugarcane is transmitted through -----.
- a) viruses                      b) bacteria      c) insects vectors      d) fungi
- 861) Grassy shoot disease is commonly found in -----.
- a) rice              b) wheat      c) barley      d) sugarcane
- 862) Causal organism of grain smut of Jowar is -----.
- a) Xanthomahas campestris    b) Sphacelotheca sorghii
- c) Taphrina maculans              d) Ustilago scilamineae
- 863) Citrus canker is caused by -----.
- a) Taphrina maculans                      b) Ustilago scilamineae
- c) Xanthomahas campestris              d) Collection falcatum
- 864) Colletotrichum linelemuthianum cause ----- disease.
- a) red-rot      b) wheat rust              c) brown rot              d) anthracnose of bean
- 865) Dowry mildew of bajara is caused by -----.
- a) Xanthomahas campestris              b) Peronospora viticola
- c) Albugo candida                              d) Sclerospora graminicola
- 866) Antibiotic like streptomycin is used against -----.
- a) brown spot disease                      b) citrus canker
- c) leaf spot                                      d) white rust
- 867) Transformation of grains into green leafy structures is referred as -----.
- a) die back              b) chlorosis              c) green ears              d) phyllody
- 868) ----- is a non-symbiotic biofertilizer.
- a) VAM      b) Azotobacterc) Anabaena              d) Rhizobium
- 869) ----- fixes biological nitrogen in root nodules.
- a) Acetobacter              b) Azotobacterc) Rhizobium d) Nitrobacter
- 870) ----- cyanobacterium fixes biological nitrogen.
- a) spirogyra              b) Nostoc              c) Ulothrix      d) Volvox
- 871) The nitrogen fixing non-symbiotic bacteria associated with maize roots are named as -  
-----.
- a) Acetobacter              b) Azotobacterc) Enterobacter              d) Azospirillum
- 872) VAM provide ----- to plants.
- a) sulphates              b) nitrates                      c) phosphates d) carbonates
- 873) ----- blue green alga is a strong nitrogen fixer in rice field.

- a) Ulothrix    b) Aulosira                    c) Derxia                    d) Tolypothrix tenuis
- 874) ----- isolated from sugarcane rhizosphere that fixes biological nitrogen.  
a) Azotobacter croococcum                    b) Azospirillum lipoferum  
c) Acetobacter diazotrophicus                    d) Aspergillus awamarii
- 875) ----- is a phosphate solubilizing bacterium (PSB).  
a) Azotobacter diazotrophicus                    b) Pseudomonas striata  
c) Xanthomahas campestris                    d) Xanthobacter autotrophicus
- 876) Seed inoculation with ----- exhibited increased grain yield in Jowar and Rice.  
a) Azotobacter brasilense                    b) Rhizabium leguminosiarum  
c) Rhizobium phaseoli                    d) Acetobacter diazotrophicus
- 877) ----- is a symbiotic root nodule bacterium.  
a) Calathrix    b) Ulothrix    c) Psudomonas                    d) Rhizobium
- 878) Kingdom monera include -----  
a) Bacteria    b) fungi                    c) viruses                    d) Algae
- 879) Kingdom monera was cracked by -----  
a) Bessey    b) de Candolle                    c) Whittaker                    d) Haeckel
- 880) One of the following is rod-shaped bacterium  
a) Bacillus    b) Streptococcus                    c) Pseudomonas                    d) Diplococcus
- 881) Blue green algae are referred as -----  
a) Nitrogen fixing fungi                    b) Photosynthetic bacteria  
c) nitrogen-fixing bacteria                    d) sulphur utilizing bacteria
- 882) Curve or comma shaped bacteria are called -----  
a) coccus                    b) vibrio                    c) Bacillus                    d) Spirillum
- 883) Spiral bacteria are termed as -----  
a) Coccus                    b) Bacillus                    c) Spirillum                    d) vibrio
- 884) Spherical bacteria are termed as -----  
a) Bacillus                    b) coccus                    c) Spirillum                    d) vibrio
- 885) The term 'blue green alga' refers to ----  
a) Cyanobacteria                    b) Phosphate solubilizing bacteria  
c) sulphur utilizing bacteria    d) methane bacteria
- 886) Bacteria are stained by - stain





- 913) Cell wall of Rickettsias contains - ---  
 a) lipoprotein b) cellulose c) chitin d) Muramic acid
- 914) ----- are called energy parasites  
 a) mycoplasmas b) Rickettsias c) Chlamydias d) Viruses
- 915) Outer membrane of chlamydias contain -----  
 a) lipoprotein b) Peptidoglycan  
 c) lipopolysaccharides d) Muramic acid
- 916) One of the following can't be cultured outside the cell  
 a) Bacteria b) fungi c) viruses d) both a & b
- 917) Food stored in fungal cell is -----  
 a) Glucose b) starch c) sucrose d) Glycogen
- 918) All fungi are -----  
 a) parasites b) saprophytes c) autotrophs d) Heterotrophs
- 919) ----- is predatory fungi  
 a) Corticolous b) coprophilous c) Entomogenous d) saxicolous
- 920) A group of fungi in which sexual reproduction is either unknown or lacking -----  
 a) Ascomycetes b) Basidiomycetes  
 c) Phycotrochetes d) Deuteromycetes
- 921) In ascomycetes, fruiting bodies are of ----- type.  
 a) Cleistothecia b) Perithecia c) Apothecia d) All of these
- 922) Haustoria in fungi are meant for -----  
 a) attachment of mycelium with host b) spreading the mycelium  
 c) reproduction in fungi d) absorption of food
- 923) Fungi growing on dung of animals are called -----  
 a) coprophilous b) corticolous c) saxicolous d) Zoophilous
- 924) The mycelium having different kinds of nuclei is called  
 a) monokaryotic b) Dikaryotic c) Heterozygous d) Heterokaryotic
- 925) Fungi growing on dead organic matter is called -----  
 a) saprophyte b) parasite c) symbiotic d) Sporophyte
- 926) Most simple thallus in fungi converted into reproductive cells are -----  
 a) Holocarpic b) dimorphic c) sporophytic d) Eucarpic
- 927) One of the following is asexually produced structure  
 a) Pycnidia b) Basidia c) Perithecia d) ascothecia
- 928) '+ve', '-ve' strained gametes are produced in -----





- 941) *Uncinula* belongs to order -----  
 a) Erysiphales      b) Aspergillales      c) Mucordos      d) Polyporales
- 942) Cleistothecium in *Uncinula* is characterized by -----  
 a) Straight appendages      b) curved appendages  
 c) forked appendages      d) Branched appendages
- 943) Cleistothecium in *Uncinula* is -----  
 a) without opening      b) with opening  
 c) with or without opening      d) None of these
- 944) Mycelium in *Uncinula* produce ----- of haustoria  
 a) knob shaped      b) cleistothecium  
 c) sclerothecium      d) pseudothecium
- 945) Polyporus is ----- fungus  
 a) Leaf inhabiting      b) Wood rotting  
 c) coprophilous      d) entomogenous
- 946) Basidiocarp in Polyporus is ----- after maturation  
 a) soft,      b) corky or leathery and woody  
 c) Not soft      d) only woody
- 947) Polyporus belongs to ----- family  
 a) Albuginaceae      b) Aspergilaceae  
 c) Polyporaceae      d) Erysiphaceae
- 948) Polyporus belongs to ----- fungi  
 a) Truffels      b) Puff ball      c) Pore      d) foot ball
- 949) *Albugo* is called -----  
 a) white rust fungus      b) Brown rust fungus  
 c) orange rust fungus      d) black rust fungus
- 950) *Albugo* commonly occurs on -----  
 a) cruciferous plants only      b) Amaranthaceae members only  
 c) a and b      d) Malvaceae members
- 951) Conidia in *Albugo* develops in ----- succession.  
 a) *acropetal*      b) *basipetal*      c) *centripetal*      d) centrifugal
- 952) Acetobacter produce -----  
 a) citric acid      b) Gluconic acid      c) kojic acid      d) Gibberelic acid

- 953) *Cibberella fjikuroi* produce -----  
 a) citric acid            b) Gibberellic acid    c) Gluconic acid        d) Lactic acid
- 954) *Clostridium* produces -----  
 a) Glucoconic acid    b) fumaric acid        c) lactic acid    d) kojic acid
- 955) ----- is obtained from citric acid by transformation using *Acetobacter terreus* which is used as resin in detergents.  
 a) Itaconic acid        b) citric acid    c) Gluconic acid        d) fumaic acid
- 956) Lactic acid is obtained by formentation using -----  
 a) *Lactobacillus*        b) *Azotobacter* c) *Acetobacter*        d) *Pseudomonas*
- 957) Yogh is obtained from fermentation of milk by using  
 a) *Streptomces lactis*            b) *Streptoecacus thermophilus*  
 c) *Lactobacillus bulgaricus*    d) None of these
- 958) Butter milk is obtained by using --  
 a) *Leuconostoc citrovorum*    b) *Leuconostac dextranicum*  
 c) *Streptomyces cremorii*        d) All of these
- 959) 'Kefir' a food product is obtained by using  
 a) *Saccharomyces kefir*            b) *Torula kefir*  
 c) *Lactobacittus caucasicus*        d) All of these
- 960) Cheddar cheese is obtained by using ----  
 a) *Streptocaceus cremoris*        b) *Streptomycis lactis*,  
 c) *Mucor pusillus*                d) Both a and b
- 961) Oives are prepared by using lactic acid fermentation through -----  
 a) *Leuconostoc mosenterrides*        b) *Lactobacillus plantanum*  
 c) Both a & b                        d) None of these
- 962) To obtain grapevine, fresh fruits of grape are fermented with -----  
 a) *Candida vini* & *Candida krusei*    b) *Torulopsis stellate*  
 c) *Kloeckera apiculata* & *K. cortices*    d) All of these
- 963) The principal substrates from fresh grapes are utilized for fermentation to obtain vine, They are -----  
 a) sugars and nitrogen compounds    b) starch  
 c) Pectin                                d) lipids
- 964) On a large scale, ----- is used for fermentation of fresh grapes to yield grapne-vine.  
 a) *Aspergillus flavus*                b) *Aspergillus nigricans*  
 c) *Aspergillus niger*                d) *Saccharomyces cerevisiae*

- 965) ----- obtained from grapes  
 a) Bhewine    b) Yellow wine    c) Orange wine    d) Champagne
- 966) ----- is used as substrate to obtain beer by yeast fermentation.  
 a) Rice    b) Bajra (Pearlmillet)    c) Barley & malt    d) Corn
- 967) For flavouring beer, the essential oil from ----- plant is used.  
 a) Humulus lupulus    b) Hordeum vulgare  
 c) Hordeum distichum    d) Hordeum hexastichum
- 968) Soy sauce, a dark brown liquid with salty taste is obtained from ----- by using *Aspergillus oryzae* as starter.  
 a) Brassica nigra    b) Brassica compestris  
 c) Brassica rapa    d) Glycine max.
- 969) ----- is a food product obtained from soybean fermented by Rhizopus  
 a) Tempen    b) Ontjom    c) Soysauce    d) Miso
- 970) ----- is a Japanese food product obtained from soybean for flavouring meat vegetable.  
 a) Hamanatto    b) ontjom    c) sufu    d) miso
- 971) 'sufu' a Chinese cheese made from cakes of -----curd.  
 a) soybean    b) French bean    c) kidney bean    d) Limabean
- 972) 'Idli' is made from backgram & rice by using ----- as starter in fermentation.  
 a) Torulolopsis candida    b) Aspergillus niger  
 c) Aspergillus flavus    d) Aspergillus oryzae
- 973) By using *Saccharomyces cerevisiae* as starter in fermentation of sugary, starchy materials, ----- is obtained.  
 a) ethyl alcohol    b) oleic acid    c) glycerol    d) Oxidic acid.
- 974) Traditional Indonesian food 'Ontjom' is obtained through fermentation of ----- by using Neurospora.  
 a) potato    b) sweet potato  
 c) Peanut & coconut cake    d) Asporagus roots
- 975) Algae growing in hot water springs are called -----  
 a) thermophytes    b) epiphytes    c) cryophytes    d) endophytes
- 976) Algae growing on ice are called -----  
 a) epiphytes    b) cryophytes    c) endophytes    d) thermophytes
- 977) Algal forms growing on other plants are called -----  
 a) endophytes    b) thermophytes    c) epiphytes    d) parasites

- 978) Alga growing on animals, are described as -----  
 a) endophytes            b) epiphytes            c) epizoic            d) endozoic
- 979) Blue green alga growing endozoically inside the protozoan are called -----  
 a) cyanallae            b) symbionts    c) epiphytes            d) parasites
- 980) Alga growing as a parasite on tea leaves is named as -----  
 a) Anabaena            b) Nostae            c) Cephaleuros            d) Chlorella
- 981) Blue green Alga growing as endophyte inside the leaf of *Azolla* fern, is named as -----  
 -----  
 a) Chlorella            b) Oscillatoria    c) Cladophora    d) Anabaena
- 982) ----- alga grows as endophyte inside the coralloid roots of *Cycas*.  
 a) Chlorella            b) Nostoc            c) Ectocarpus    d) Polysiphonia
- 983) Several forms of alga remained attached to bottom or to submerged objects are called -----  
 -----  
 a) thermophytes            b) Cryophytes            c) benthos            d) epipellic
- 984) Algal forms growing on bottom soil are called -----  
 a) epipellic            b) lithophytic    c) epiphytes            d) epizoic
- 985) Symbiotic relationship of ----- with fungi, constitute a thallas of lichen.  
 a) Nostoc            b) Ectocarpus    c) Polysiphonia            d) Spiragya
- 986) Polysiphonous thallas is found in -----  
 a) spiragya            b) Nostoc            c) Oedogonium            d) Polysiphonia
- 987) The algal thallus appearing like a microscopic tree are called -----.  
 a) dendroid            b) palmelloid    c) colonial            d) siphonous
- 988) ----- exhibit filamentous plant body.  
 a) Nostoc            b) Ulothrix            c) Anabaena            d) Scytonema
- 989) ----- is growing in freshwater belonging to red alga.  
 a) Ulothrix            b) Oedogonium  
 c) Ectocarpus            d) Batrachospermum
- 990) The branches of limited and unlimited growth are found in -----  
 a) Chlorella            b) Volvox            c) Spirulina            d) Chara
- 991) The sexual reproduction in Chara is -----  
 a) isogamous    b) anisogamous            c) Oogamous    d) heterogamous
- 992) ----- is the male sex organ in Chara  
 a) globale            b) nucule            c) bulbil            d) protonema

- 993) ----- is the female sex organ in chara  
 a) nucule                    b) bulbil            c) protonema d) globule
- 994) The cells of Chara possess ----- shaped chloroplasts.  
 a) cup b) stellate                    c) reticulate                    d) discoid
- 995) The star shaped bodies meant for vegetative reproduction in Chara are rich in -----  
 a) starch            b) proteins                    c) lipids            d) cellulose
- 996) The wall of the globule in Chara is composed of -----  
 a) shield cells                    b) primary capitulum  
 c) manubrium                    d) secondary capitulum
- 997) The nucule of Chara is capped by -----  
 a) nodal cells b) internodal cells            c) tube cells            d) coronary cells
- 998) The number of tube cells in a nucule of Chara are -----  
 a) three            b) four c) five                    d) many
- 999) The number of manubrial cells in globule of Chara are -----  
 a) four            b) eight            c) sixteen            d) thirty two
- 1000) The number of corticating filaments at a node in chara ranges from -----  
 a) 2-12            b) 6-20            c) 16-48            d) 24-64
- 1001) The oogonium of Chara is surrounded by -----  
 a) tube cells            b) internodal cells                    c) nodal cells                    d) coronary cells
- 1002) *Chara baltica* is a -----  
 a) marine alga                    b) fresh alga  
 c) lithophytic                    d) cryophytic
- 1003) Chara multiplies vegetatively by forming ----- stars.  
 a) lipid            b) protein            c) nitrogenous                    d) amyllum
- 1004) Plant body of *Ectocarpus* grow as ----- on other algae  
 a) benthos                    b) parasite            c) epiphyte            d) Chryophyte
- 1005) *Ectocarpus* filaments show ----- habit  
 a) heterotrichous            b) dendroid            c) palmelloid            d) coccoid
- 1006) Apical cell of *Ectocarpus* is -----shaped  
 a) dome            b) capitate                    c) pointed                    d) lobed
- 1007) Chromatophores in cells of *Ectocarpus* are -----  
 a) Discoid            b) cup shaped                    c) stellate                    d) reticulate



- a) periplasm    b) ooplasm    c) oosphere    d) peridium
- 1024) The botanical name of white rust fungus is -----  
 a) *Aspergillus niger*    b) *Albugo canclida*  
 c) *Penicillium notatum*    d) *Uromyces necator*
- 1025) Mushroom is a -----  
 a) Saprophyte    b) obligate parasite  
 c) epiphyte    d) facultative parasite
- 1026) According to Ajnsworth, *Agaricus* belongs to -----  
 a) Deuteromycotina    b) Ascomycotina  
 c) Basidiomycotina    d) Mastigomycotina
- 1027) In *Agaricus* sexual reproduction occurs by -----  
 a) Somatogamy    b) binary tission    c) isogamy    d) conjugation
- 1028) ----- is a edible field mushroom commonly occurring in rainy season.  
 a) *Agaricus xanthodermus*    b) *Agaricus sylvations*  
 c) *Agaricus compestris*    d) *Agaricus placomyces*
- 1029) The subglobose peltate umbrella shaped cap of mushroom is referred as ---  
 a) gill    b) stipe    c) Pileus    d) Velum
- 1030) The fertile cells of Hymenium in *Agaricus* are called -----  
 a) trama    b) basidia    c) cystidia    d) conidia
- 1031) ----- mycelium is observed during somatogamy in *Agaricus*  
 a) dikorytic    b) monokarytic    c) multikaryotic    d) coenocytic
- 1032) Primary mycelium of opposite strain in *Agaricus* , fuse to form ----- mycelium.  
 a) monokaryotic    b) coenocytic  
 c) dikaryotic    d) polymorphic
- 1033) Most widely cultivated edible mushroom is -----  
 a) *Agaricus bisporus*    b) *Agaricus compestos*  
 c) *Agaricus sylvaticus*    d) *Agaricus placomyces*
- 1034) ----- is a cultivated edible oyster mushroom.  
 a) *Agaricus bisporus*    b) *Agaricus compestos*  
 c) *Agaricus arvensis*    d) *Plectrotus sajor - kaja*
- 1035) The union of two protoplasts of opposite strain is referred as -----  
 a) Plastogamy    b) Karyogamy    c) conjugation    d) heterogamy
- 1036) ----- is common in most primitive fungi



- a) Anisogamy b) isogamy c) heterogamy d) Hologamy
- 1037) somatogamy in higher fungi is also called -----  
 a) apomixes b) pseudomixis  
 c) gametangial contact d) karyogamy
- 1038) morphologically distinguishable gametangia in fungi are referred as -----  
 a) isogametangia b) synangia c) heterogametangia d) spermatangia
- 1039) fusion of two gametangial cells in fungi is called -----  
 a) indirect fusion b) direct fusion  
 c) binary fusion d) spermatization
- 1040) Direct fusion occurs in -----  
 a) ascomycetes b) zygomycetes  
 c) deuteromycetes d) basidiomycetes
- 1041) ----- are used for study of genetic recombination  
 a) Bacteria b) viruses c) fungi d) alga
- 1042) ----- bacterial strain transformation process of genetic recombination is studied by Griffith (1928)  
 a) Diplococcus pneumoniae b) Pseudomonas  
 c) Salmonella d) Pneumococcus
- 1043) ----- process is called phage-mediated genetic transfer  
 a) Transformation b) Transduction c) Conjugation d) Repulsion
- 1044) Transducing phages are characterized by the presence of -----  
 a) r-RNA b) t-RNA c) m-RNA d) bacterial DNA fragment
- 1045) Transduction was first studied in -----  
 a) Escherichia b) Rhizobium c) Salmonella d) Pseudomonas
- 1046) The extra genomic DNA segment of bacteria is -----  
 a) Episome b) plasmid c) cosmid d) viroid
- 1047) Extra chromosomal DNA fragment in bacteria is called -----  
 a) plasmid b) desmid c) cosmid d) viroid
- 1048) Bacterial genome consist of -----  
 a) DNA & histones b) DNA only  
 c) histones only d) DNA without histones
- 1049) The term 'plasmid' is coined by -----  
 a) Lederberg b) Griffith c) Tatum d) Wollman

- 1050) In bacteriophage, the genetic material is -----  
 a) DNA      b) RNA      c) only DNA   d) both DNA & RNA
- 1051) Plant viruses have -----  
 a) DNA      b) RNA      c) Only DNA   d) both DNA & RNA
- 1052) Phages that show lysogenic cycle are called  
 a) temperate phage                      b) Arivulent phage  
 c) virulent phage                              d) lytic phage
- 1053) Transformation mechanism of recombination in bacteria is discovered by ----  
 a) Griffith                                      b) Tatum  
 c) Lederberg and Tatum                      d) Zinder and Lederberg
- 1054) Conjugation mechanism of recombination in bacteria is discovered by -----  
 a) Leaderberg and Tatum                      b) Zinder and Lederberg  
 c) F. Griffith                                      d) Leaderberg
- 1055) Transduction mechanism of recombination in bacteria is discovered by -----  
 a) Zinder    b) Zinder and Lederberg  
 c) F. Griffith                                      d) Leaderberg and Tatum
- 1056) Emasculation is carried out ----  
 a) before anthesis                              b) after anthesis  
 c) before fruiting                                      d) after fruiting
- 1057) "Pure line" term coined by -----, a Danish botanist  
 a) Norman Blorlaug   b) Mendel      c) Darmin      d) Johansen
- 1058) The term 'arrow' is referred to the inflorescence of -----  
 a) Jowar      b) bajra                      c) sugarcane                      d) Groundnut
- 1059) The botanical name of cultivated sugarcane is -----  
 a) *Saccharum officinarum*                      b) *Saccharum spontancum*  
 c) *Saccharum robustum*                      d) *Sorghum halpense*
- 1060) Peg formation is related with the morphological development of ovary in ----  
 a) Jowar      b) Groundnut   c) Sugarcane   d) Cotton
- 1061) Groundnut is ----- crop.  
 a) self pollinated                              b) cross pollinated  
 c) sterile    d) often cross pollinated
- 1062) The botanical name of Groundnut is -----  
 a) *Arachis hypogaea*                      b) *Arachis monticola*



- a) M.S. Swaminathan                      b) Norman Borlaug  
c) Jenkins                                      d) Johansen
- 1078) Genetic male sterility is governed by -----  
a) Two recessive gene                      b) two dominant genes  
c) single recessive gene                      d) single dominant gene
- 1079) ----- is carried out to avoid undesirable selfing.  
a) tagging              b) bagging    c) emasculation              d) selection
- 1080) ----- is the simplest and oldest method of crop improvement.  
a) Pureline selection                      b) Mass selection  
c) Clonal selection                              d) Hybridization
- 1081) ----- is the variety of tomato, achieved by pedigree method.  
a) Jaya              b) Laxmi                      c) Pusa early dwarf                      d) Laxmi
- 1082) ----- is the variety of potato developed by mutation.  
a) Pusa early dwarf                      b) Kufri-Red  
c) Sharabati Sonora                              d) Varalaxmi
- 1083) Coefficient of variation is usually expressed in -----  
a) Percentage    b) frequency    c) density              d) Percentage of frequency
- 1084) ----- is the quantitative measure of character  
a) mean              b) variate              c) median                      d) frequency
- 1085) ----- is the alternative measure position which is infact the 50<sup>th</sup> percentile.  
a) Mean              b) mode              c) median                      d) frequency
- 1086) Chi-square distribution was first discovered by -----  
a) Helmert              b) Griffin              c) Galton              d) Pearson
- 1087) ----- was known as father of biostat  
a) Charles Darwin                      b) Mendel              c) Bowley              d) Francis Galton
- 1088) ----- is the sum of all the values divided by their total number.  
a) mode              b) median              c) frequency              d) mean
- 1089) The measure of control tendency about which Kurtosis marked, is -----  
a) Mean              b) male                      c) variation                      d) frequency
- 1090) Mean of chi-square distribution is -----  
a) n                      b) 2n                      c) n<sup>2</sup>                      d) 2n<sup>2</sup>
- 1091) Contradiction between observed and expected frequencies is measured by ----

- a) chi-square test
- c) Standard deviation

- b) Variance
- d) Mean variation