

Section-II BIOLOGY

- During Prophase-I of meiosis-I, crossing over takes place between:
(a) Some homologous pairs only.
(b) non-sister chromatids of some homologous chromosomes only.
(c) non-sister chromatids of each homologous pair.
(d) All of these.
- In Mendelian experiments, an F_1 individual produces gametes in the ratio of 1 : 1 : 1 : 1. This is because:
(a) it is a dihybrid. (b) of independent assortment
(c) it is dihybrid test cross ratio (d) both a and b
- A gene located a Y-chromosome and hence transmitted from father to son is known as :
(a) Operator gene (b) Suppressor gene
(c) Holandric gene (d) Sex-linked recessive gene
- A person shows blood pressure of 160/90. He is suffering from:
(a) Hypotension (b) No tension
(c) Hypertension (d) Arteriosclerosis
- One of the following is used as a green manure. Identify it.
(a) Rhizobium radiculicola (b) Croton tiglium
(c) Bacillus polymyxa (d) Plants with root nodules only.
- The types of gametes produced by a single heterozygous yellow round pea plant may be -
(a) YR, Yr, yR, yr (b) YR, yR (c) YR, Yr (d) b or c
- One of the following is not a man made intergeneric hybrid -
(a) Raphanobrassica (b) Pomato
(c) Secale cereale (d) Triticale
- Genes are -
(a) segments of chromosomes
(b) made of DNA segments and associated histone proteins
(c) specific polynucleotide sequences in DNA
(d) all of these
- Producer gas differs from bio gas because -
(a) it is produced through microbial action
(b) it contains carbon monoxide
(c) it does not burn with smokeless flame
(d) it is produced in fermenter tank
- Agriculture is considered a primary industry in India because -
(a) It accounts for nearly 2 / 5th of the Gross National Product.
(b) It employs majority of working population
(c) It gives primary education in starting an industry
(d) All the three.
- Some pairs of codons and anticodons are given as follows -
(a) AUG – UAC (b) GGU – CCU
(c) CAG – GUC (d) AUU – UAA
- Point out the statement which is not applicable to the pesticides
(a) many pesticides are not target specific
(b) some pesticides are poisonous
(c) pesticides pollute soil, water and air
(d) pesticides minimize economic loss in agriculture
- The sex organs are totally absent but sexual reproduction takes place in –
(a) Rhodophyceae (b) Basidiomycetes
(c) Chlorophyceae (d) Imperfect fungi
- A pea plant with the genotype Rr YY TT is a -
(a) trihybrid (b) dihybrid
(c) monohybrid (d) single heterozygous dominant
- Which of the following are not naturally synthesized in human body?
(a) proteins (b) enzymes
(c) vitamins (d) all the three
- How many types of nitrogen containing bases are found in a nucleotide of DNA?
(a) 2 (b) 4 (c) 3 (d) 1
- DAP is a form of -
(a) high energy containing compound used in cell metabolism.
(b) biomass used for production of bioenergy
(c) animal energy
(d) organic waste of animal origin
- The flower in Hibiscus (China rose) is -
(a) hypogynous (b) monadelphous
(c) epipetalous (d) all of these
- Fragmentation is a type of -
(a) sexual reproduction (b) asexual reproduction
(c) clonal propagation (d) vegetative cultivation
- In aerobic respiration, total number of ATP formed without involving ETS comes to -
(a) 6 ATP (b) 4 ATP (c) 2 ATP (d) 8 ATP
- Alleles are the -
(a) two genes on the homologous chromosomes
(b) two forms of the same gene
(c) two genes present on the same locus of a homologous chromosomes
(d) two homologous chromosomes with identical gene loci
- The hybrid, improved Mexican wheat varieties developed by Norman Borlaug were -
(a) dwarf
(b) susceptible to diseases
(c) with high quality but poor yield
(d) with high yield but poor quality and resistance to diseases
- Cycas shows -
(a) heterospory (b) heterophylly
(c) heterogametophytes (d) all of these
- CO_2 is not released during -
(a) aerobic respiration (b) anaerobic respiration
(c) alcoholic fermentation (d) Lactic acid fermentation
- (i) Multiplication (ii) Propagation (iii) Perpetuation
All of these represent –
(a) rejuvenation (b) reproduction
(c) replication (d) recreation
- Which one of the following is not an inexhaustible resource?
(a) sun light (b) tidal power (c) coal (d) rainfall
- Two DNA strands are
(a) parallel and complementary
(b) antiparallel and non-complementary
(c) antiparallel and complementary
(d) parallel and non-complementary
- Plasmids are obtained from
(a) fungi (b) algae (c) bacteria (d) virus
- Replication of DNA, new strand has
(a) one parental and one old strand
(b) both new strands
(c) both old strands
(d) one parental and one new strand
- r-RNA is called ribosomal RNA because
(a) it is located in ribosome (b) synthesized in ribosome
(c) destroy in ribosome (d) formed in ribosome
- DNA fragment of gene library are made up of -
(a) dead plants (b) dead animals
(c) living bacteria (d) dead bacteria
- What is scientific name of Holy basil?
(a) Aloe vera (b) Adathoda uasica
(c) Oscimum sanctum (d) Azadirachta indica
- In Aloe vera active principal present
(a) saponin (b) tannin
(c) barbaloin (d) vasakin
- Rhizobium fixes N_2 in legumes due to
(a) haemoglobin (b) leghaemoglobin
(c) globulin (d) hemoglobin
- Transpiration is related to which of the following
(a) wilting of leaves (b) shoot formation
(c) flowering induction (d) bud formation
- In Hill reaction, Hill used to prove the presence of oxygen.
(a) ferric cyanide (b) ferric salt
(c) haemoglobin (d) leghaemoglobin
- Photolysis of water requires
(a) light and water (b) light and chlorophyll
(c) light and CO_2 (d) CO_2 and H_2O
- In plant during photosynthesis PGA is reduced by -
(a) NAD (b) FAD
(c) $NADPH_2$ (d) $FADH_2$
- With H_2O and chlorophyll, the most essential raw material for photosynthesis is
(a) CO_2 (b) O_2
(c) H_2S (d) CO
- During glycolysis 3 PGAL is phosphorylated into 1,3 – diPGA by using
(a) phosphoric acid (b) ATP
(c) ADP (d) AMP
- Pyruvic acid is formed after the glycolysis contains carbon atoms.
(a) 4 (b) 6 (c) 3 (d) 2
- From following is the common respiratory substrate.
(a) amino acid (b) glucose (c) protein (d) fats
- The double fertilization includes fusion of one male gamete with female gamete and another male gamete with -
(a) secondary nucleus (b) egg cell
(c) nucellus (d) antipodal cell
- The female gametophyte is represented by -
(a) nucellus (b) egg cell
(c) embryo sac (d) antipodal cells
- The micropyle of anatropous ovule is closed to
(a) hilum (b) chalaza
(c) funicle (d) style