

SNS ACADEMY**Holiday Worksheet Science - Biology**

10th Standard

Science

Date : 21-Oct-23

Exam Time : 01:30:00 Hrs

Reg.No. :

Total Marks : 200

160 x 1 = 160

MULTIPLE CHOICE QUESTIONS

- 1) Asexual reproduction takes place through budding in
(a) amoeba (b) yeast (c) plasmodium (d) leishmania
- 2) Which of the following is not a part of the female reproductive system in human beings?
(a) Ovary (b) Uterus (c) Vas deferens (d) Fallopian
- 3) The anther contains
(a) sepals (b) ovules (c) carpel (d) pollen grains
- 4) A mendelian experiment consisted of breeding tall pea plants bearing violet flowers with short pea plants bearing white flowers. The progeny all bore violet flowers, but almost half of them were short. This suggests that the genetic make-up of the tall parent can be depicted as
(a) TTWW (b) TTww (c) TtWW (d) TtWw
- 5) Which of the following groups contain only biodegradable items?
(a) Grass, flowers and leather (b) Grass, wood and plastic (c) Fruit-peels, cake and lime-juice
(d) Cake, wood and grass
- 6) Which of the following constitute a food-chain?
(a) Grass, wheat and mango (b) Grass, goat and human (c) Goat, cow and elephant
(d) Grass, fish and goat
- 7) Which of the following are environment-friendly practices?
(a) Carrying cloth-bags to put purchases in while shopping
(b) Switching off unnecessary lights and fans
(c) Walking to school instead of getting your mother to drop you on her scooter (d) All of the above
- 8) In this list of organisms given below, those that reproduce by the asexual method are
(i)banana
(ii)dog
(iii)yeast
(iv)amoeba
(a) (ii) and (iv) (b) (i), (iii) and (iv) (c) (i) and (iv) (d) (ii), (iii) and (iv)
- 9) In a flower, the parts that produce male and female gametes (germ cells) are
(a) stamen and anther (b) filament (c) anther and ovary (d) stamen and style
- 10) Which of the following is correct sequence of events of sexual reproduction in a flower?
(a) pollination, fertilisation, seedling, embryo (b) seedling, embryo, fertilisation, pollination
(c) pollination, fertilisation, embryo, seedling (d) embryo, seedling, pollination, fertilisation

- 11) Offspring formed by asexual method of reproduction have greater similarity among themselves because
- (i) asexual reproduction involves only one parent
 - (ii) asexual reproduction does not involve gametes
 - (iii) asexual reproduction occurs before sexual reproduction
 - (iv) asexual reproduction occurs after sexual reproduction
- (a) (i) and (ii) (b) (i) and (iii) (c) (ii) and (iv) (d) (iii) and (iv)
- 12) Characters transmitted from parents to offspring are present in
- (a) cytoplasm (b) ribosome (c) golgi bodies (d) genes
- 13) Characters that are transmitted from parents to offspring during reproduction show
- (a) only similarities with parents (b) only variations with parents
- (c) both similarities and variations with parents (d) neither similarities nor variations
- 14) A feature of reproduction that is common Amoeba, Spirogyra and Yeast is that
- (a) they reproduce asexually (b) they are all unicellular (c) they reproduce only sexually
- (d) they are all multicellular
- 15) In Spirogyra, asexual reproduction takes place by
- (a) breaking up of filaments into smaller bits (b) division of a cell into two cells
- (c) division of a cell into many cells (d) formation of Young cells from older cells
- 16) The ability of a cell to divide into several cells during reproduction in Plasmodium is called
- (a) budding (b) reduction division (c) binary fission (d) multiple fission
- 17) The correct sequence of reproductive stages seen in flowering plants is
- (a) gametes, zygote, embryo, seedling (b) zygote, gametes, embryo, seedling
- (c) seedling, embryo, zygote, gametes (d) gametes, embryo, zygote, seedling
- 18) The number of chromosomes in parents and offspring of a particular species remains constant due to
- (a) doubling of chromosomes after zygote formation
- (b) halving of chromosomes during gamete formation
- (c) doubling of chromosomes after gamete formation
- (d) halving of chromosomes after gamete formation
- 19) In Rhizopus, tubular thread-like structures bearing sporangia at their tips are called
- (a) filaments (b) hyphae (c) rhizoids (d) roots
- 20) Vegetative propagation refers to formation of new plants from
- (a) stem, roots and flowers (b) stem, roots, and flower (c) stem, flowers and fruits
- (d) stem, leaves and flowers
- 21) Factors responsible for the rapid spread of bread mould on slices of bread are
- (i) large number of spores
 - (ii) availability of moisture and nutrients in bread
 - (iii) presence of tubular branched hyphae
 - (iv) formation of round shaped sporangia
- (a) (i) and (iii) (b) (ii) and (iv) (c) (i) and (ii) (d) (iii) and (iv)

- 22) Length of pollen tube depends on the distance between
- (a) pollen grain and upper surface of stigma
 - (b) pollen grain on upper surface of stigma and ovule
 - (c) pollen grain in anther and upper surface of stigma
 - (d) upper surface of stigma and lower part of style
- 23) Which of the following statements are true for flowers?
- (i) Flowers are always bisexual
 - (ii) They are the sexual reproductive organs
 - (iii) They are produced in all groups of plants
 - (iv) After fertilisation they give rise to fruits
- (a) (i) and (iv) (b) (ii) and (iii) (c) (i) and (iii) (d) (ii) and (iv)
- 24) Which among the following statements are true for unisexual flowers?
- (i) They possess both stamen and pistil
 - (ii) They possess either stamen or pistil
 - (iii) They exhibit cross pollination
 - (iv) Unisexual flowers possessing only stamens cannot produce fruits
- (a) (i) and (iv) (b) (ii), (iii) and (iv) (c) (iii) and (iv) (d) (i), (iii) and (iv)
- 25) Which among the following statements are true for sexual reproduction in flowering plants?
- (i) It requires two types of gametes
 - (ii) Fertilisation is a compulsory event
 - (iii) It always results in formation of zygote
 - (iv) Offspring formed are clones
- (a) (i) and (iv) (b) (i), (ii) and (iv) (c) (i), (ii) and (iii) (d) (i), (ii) and (iv)
- 26) Offspring formed as a result of sexual reproduction exhibit more variations because
- (a) sexual reproduction is a lengthy process
 - (b) genetic material comes from two parents of the same species
 - (c) genetic material comes from two parents of different species
 - (d) genetic material comes from many parents
- 27) Reproduction is essential for living organisms in order to
- (a) keep the individual organism alive
 - (b) fulfill their energy requirement
 - (c) maintain growth
 - (d) continue the species generation after generation
- 28) During adolescence, several changes occur in the human body. Mark one change associated with sexual maturation in boys
- (a) loss of milk teeth
 - (b) increase in height
 - (c) cracking of voice
 - (d) weight gain
- 29) In human females, an event that reflects onset of reproductive phase is
- (a) growth of body
 - (b) changes in hair pattern
 - (c) change in voice
 - (d) menstruation
- 30) During adolescence, several changes occur in the human body. Mark one change associated with sexual maturation in boys
- (a) loss of milk teeth
 - (b) increase in height
 - (c) cracking of voice
 - (d) weight gain
- 31) In human males, the testes lie in the scrotum because it helps in the
- (a) process of mating
 - (b) formation of sperm
 - (c) easy transfer of gametes
 - (d) all the above

- 32) Which among the following is not the function of testes at puberty?
(i)formation of germ cells
(ii)secretion of testosterone
(iii)development of placenta
(iv)secretion of estrogen
(a) (i) and (ii) (b) (ii) and (iii) (c) (iii) and (iv) (d) (i) and (iv)
- 33) Which among the following diseases is not sexually transmitted?
(a) Syphilis (b) Hepatitis (c) HIV-AIDS (d) Gonorrhoea
- 34) The simple animals like Planaria can be cut into a number of pieces and each piece grows into a complex organism. What is the process known as?
(a) Budding (b) Fragmentation (c) Spore formation (d) Regeneration
- 35) ____ is the portion on which grafting is done and it provides the roots
(a) Stock (b) Scion (c) Both (a) and (b) (d) None of these
- 36) Where does fertilisation occur in human females
(a) Uterus (b) Cervix (c) Oviduct (d) None of these
- 37) Which one of the options is incorrect? Vegetative propagation is practised because
(a) Plants which produce non viable seeds can be grown.
(b) It is an easier method than sowing seeds.
(c) Such plants produce seeds and fruits much earlier than other methods
(d) For obtaining better species of plants.
- 38) What is the surgical method of contraception in female and male respectively
(a) Tubectomy and Vasectomy (b) Vasectomy and Copper-T (c) Tubectomy and Copper-T
(d) None of these
- 39) Growing foetus derive nutrition from mother's blood through
(a) uterus (b) fallopian tube (c) placenta (d) cervix
- 40) Which of the following is not a sexually transmitted disease
(a) Warts (b) Kala azar (c) Syphilis (d) Gonorrhoea
- 41) What is the puberty age in human males?
(a) 8-10 (b) 10-12 (c) 12-14 (d) 14-16
- 42) Fruit is formed from
(a) Stamen (b) Stigma (c) Ovary (d) Ovule
- 43) Which of these is not the function of the seminal vesicles present in human males?
(a) To coat the sperms in a fluid medium. (b) To provide nutrition.
(c) To make their transport easier. (d) To make them sticky.
- 44) The female reproductive part of the flower consists of
(a) Stigma, Anther, Filament (b) Style, Ovary, Thalamus (c) Stigma, Ovary, Style
(d) Anther, Corolla, Filament
- 45) In which of the following plant bud in notches of leaves help in its propagation?
(a) Radish (b) Bryophyllum (c) Bougainvillea (d) Jasmine

- 46) The process of the transfer of pollen grains from the flower of one plant to the stigma of the flower of another plant of the same species is known as
(a) Cross pollination (b) Fertilisation (c) Self pollination (d) None of the above
- 47) What are the functions performed by the testis in human males
(a) Production of gametes-eggs and secretion of sex hormones-estrogen
(b) Production of gametes-sperms and secretion of sex hormones-testosterone
(c) Production of gametes-sperms and secretion of sex hormones-estrogen (d) None of the above
- 48) Why are the testes located outside the abdominal cavity in scrotum
(a) Because sperm formation requires more spaces.
(b) Because sperm formation requires a lower temperature
(c) Because sperm formation requires a higher temperature. (d) None of the above.
- 49) IUCD is for
(a) Vegetative propagation (b) Contraception (c) Increasing fertility (d) Avoiding miscarriage
- 50) The two oviducts in a human female unite into an elastic bag like structure known as
(a) Vagina (b) Uterus (c) Fallopian tube (d) Cervix
- 51) Which of the following disease is transmitted sexually?
(a) Kala azar (b) Jaundice (c) Elephantiasis (d) Syphilis
- 52) Which of the following is a contraceptive?
(a) Copper-T (b) Condom (c) Diaphragm (d) All of these
- 53) The process where the unfertilised egg is released out of the body with the blood used to nourish the embryo is known as
(a) Menstruation (b) Fertilisation (c) Germination (d) Pollination
- 54) After fertilisation name the part which develops into the seeds
(a) Ovary (b) Ovule (c) Pollen grain (d) None of the above
- 55) Unisexual flowers contain
(a) Both stamen and carpel (b) Only stamen (c) Only carpel (d) Either stamen or carpel
- 56) Spirogyra reproduces by
(a) Fission (b) Regeneration (c) Fragmentation (d) Budding
- 57) The process in which the cytoplasm of a single eukaryotic cell is divided to form two daughter cells is known as?
(a) Karyokinesis (b) Cytokinesis (c) Meiosis (d) Mitosis
- 58) Unicellular organisms reproduce by
(a) Mitotic cell division (b) Meiotic cell division (c) Both (a) and (b) (d) None of the above
- 59) What is the surgical method of contraception used in human males?
(a) Vasectomy (b) Condoms (c) Contraceptive pills (d) Tubectomy
- 60) Vegetative propagation in potato takes place through
(a) Stem (b) Root (c) Leaves (d) Seeds
- 61) The full form of AIDS is
(a) Acquired Immune Deficiency System (b) Acquired Immune Disease Syndrome
(c) Acquired Immediate Deficiency Syndrome (d) Acquired Immuno Deficiency Syndrome

62) Union of male and female gametes forms

- (a) Egg (b) Embryo (c) Zygote (d) Spore

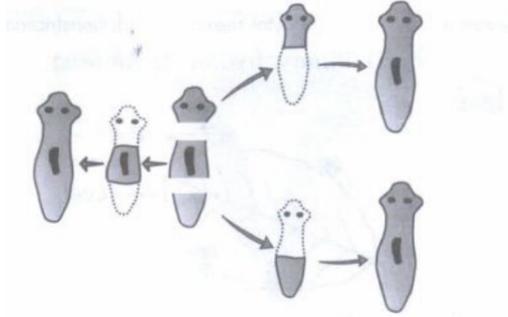
63) The number of chromosomes in human ovum is

- (a) 21 (b) 22 (c) 23 (d) 24

64) The common passage meant for transporting urine and sperms in males is

- (a) Ureter (b) Vas deferens (c) Urethra (d) Anus

65) The type of reproduction taking place is



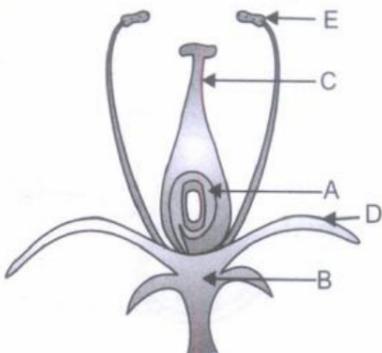
- (a) Budding (b) Fragmentation (c) Regeneration (d) Fission

66) Identify the type of cell division taking



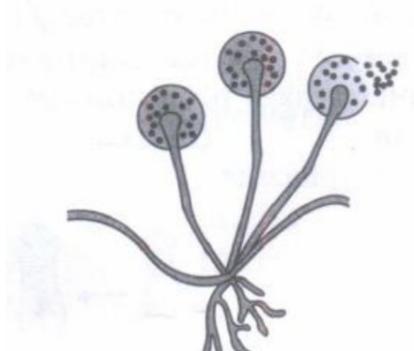
- (a) Longitudinal cell division taking place (b) Transversal cell division in Paramecium
(c) Longitudinal cell division in Paramecium (d) Transversal cell division in Amoeba

67) Chose the correct option



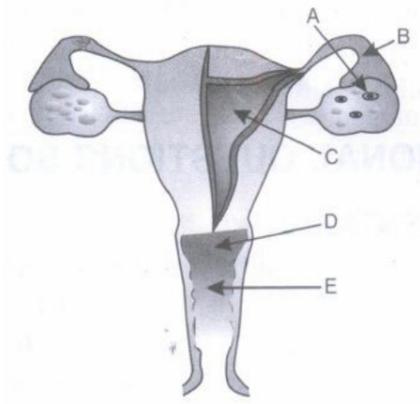
- (a) Ovary Thalamus Filament Sepal Anther (b) Ovary Thalamus Style Sepal Anther
(c) Ovule Sepal Style Thalamus Filament (d) Ovule Sepal Style Thalamus Stamen

68) Identify the organism



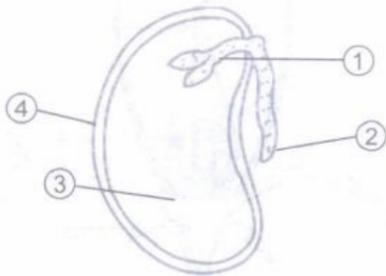
- (a) Rhizobium (b) Rhizopus (c) Rhizoid (d) Mushroom

69) Choose the right option.



- (a) Fallopian tube Oviduct Uterus Cervix Vagina (b) Oviduct Vas deferens Ovary Vagina Cervix
 (c) Ovary Oviduct Uterus Cervix Vagina (d) Ovary Fallopian tube Uterus Vagina Cervix

70)



(a)

1	2	3	4
Plumule	Radicle	Cotyledon	Seed coat

(b)

1	2	3	4
Radicle	Plumule	Seed coat	Cotyledon

(c)

1	2	3	4
Cotyledon	Seed coat	Radicle	Plumule

(d)

1	2	3	4
Radicle	Plumule	Cotyledon	Seed coat

71) An example of homologous organs is

- (a) Our arm and a dog's fore-leg (b) Our teeth and an elephant's tusks.
 (c) Potato and runners of grass. (d) all of the above

72) In evolutionary terms, we have more in common with

- (a) A Chinese school-boy. (b) A chimpanzee (c) A spider (d) A bacterium

73) Exchange of genetic material takes place in

- (a) vegetative reproduction (b) asexual reproduction (c) sexual reproduction (d) budding

74) Two pink coloured flowers on crossing resulted in 1 red, 2 pink and 1 white flower progeny. The nature of the cross will be

- (a) double fertilisation (b) self pollination (c) cross fertilisation (d) no fertilisation

75) A cross between a tall plant (TT) and short pea plant (tt) resulted in progeny that were all tall plants because

- (a) tallness is the dominant trait (b) shortness is the dominant trait
 (c) tallness is the recessive trait (d) height of pea plant is not governed by gene 'T' or 't'

76) Which of the following statement is incorrect?

- (a) For every hormone there is a gene (b) For every protein there is a gene
 (c) For production of every enzyme there is a gene. (d) For every molecule of fat there is a gene.

77) If a round, green seeded pea plant (RR yy) is crossed with wrinkled, yellow seeded pea plant, (rr YY) the seeds produced in F₁ generation are

- (a) round and yellow (b) round and green (c) wrinkled and green (d) wrinkled and yellow

- 78) In human males all the chromosomes are paired perfectly except one. This/these unpaired chromosome is/are.
- (i) large chromosome
 - (ii) small chromosome
 - (iii) Y - chromosome
 - (iv) X - chromosome
- (a) (i) and (ii) (b) (iii) only (c) (iii) and (iv) (d) (ii) and (iv)
- 79) The maleness of a child is determined by
- (a) the X chromosome in the zygote (b) the Y chromosome in zygote
 - (c) the cytoplasm of germ cell which determines the sex. (d) sex is determined by chance
- 80) A zygote which has an X - chromosome inherited from the father will develop into a
- (a) boy (b) girl (c) X - chromosome does not determine the sex of a child (d) either boy or girl
- 81) Select the incorrect statement
- (a) Frequency of certain genes in a population change over several generations resulting in evolution.
 - (b) Reduction in weight of the organism due to starvation is genetically controlled.
 - (c) Low weight parents can have heavy weight progeny
 - (d) Traits which are not inherited over generations do not cause evolution.
- 82) New species may be formed if
- (i) DNA undergoes significant changes in germ cells
 - (ii) chromosome number changes in the gamete
 - (iii) there is no change in the genetic material
 - (iv) mating does not take place
- (a) (i) and (ii) (b) (i) and (iii) (c) (ii), (iii) and (iv) (d) (i), (ii) and (iii)
- 83) Two pea plants one with round green seeds (RRyy) and another with wrinkled yellow (rrYY) seeds produce F₁ progeny that have round, yellow (RrYy) seeds. When F₁ plants are selfed, the F₂ progeny will have new combination of characters. Choose the new combination from the following:
- (i) Round, yellow
 - (ii) Round, green
 - (iii) Wrinkled, yellow
 - (iv) Wrinkled, green
- (a) (i) and (ii) (b) (i) and (iv) (c) (ii) and (iii) (d) (i) and (iii)
- 84) A basket of vegetables contains carrot, potato, radish and tomato. Which of them represent the correct homologous structures?
- (a) Carrot and potato (b) Carrot and tomato (c) radish and carrot (d) radish and potato
- 85) Select the correct statement
- (a) Tendril of a pea plant and phylloclade of Opuntia are homologous.
 - (b) Tendril of a pea plant and phylloclade of Opuntia are analogous
 - (c) Wings of birds and limbs of lizards are analogous
 - (d) Wings of birds and wings of bat are homologous
- 86) From the list given below, select the character which can be acquired but not inherited
- (a) colour of eye (b) colour of skin (c) size of body (d) nature of hair
- 87) The two versions of a trait (character) which are brought in by the male and female gametes are situated on
- (a) copies of the same chromosome (b) two different chromosomes (c) sex chromosomes
 - (d) any chromosome

- 88) Select the statements that describe characteristics of genes
- (i) genes are specific sequence of bases in a DNA molecule
 - (ii) a gene does not code for proteins
 - (iii) in individuals of a given species, a specific gene located on a particular chromosome
 - (iv) each chromosome has only one gene.
- (a) (i) and (ii) (b) (i) and (iii) (c) (i) and (iv) (d) (ii) and (iv)
- 89) In peas, a pure tall plant (TT) is crossed with a short plant (tt). The ratio of pure tall plants to short plants in F_2 is
- (a) 1 : 3 (b) 3 : 1 (c) 1 : 1 (d) 2 : 1
- 90) The number of pair (s) of sex chromosomes in the zygote of humans is
- (a) one (b) two (c) three (d) four
- 91) The theory of evolution of species by natural selection was given by
- (a) Mendel (b) Darwin (c) Morgan (d) Lamarck
- 92) Some dinosaurs had feathers although they could not fly but birds have feathers that help them to fly. In the context of evolution this means that
- (a) reptiles have evolved from birds
 - (b) there is no evolutionary connection between reptiles and birds
 - (c) feathers are homologous structures in both the organisms
 - (d) birds have evolved from reptiles.
- 93) Which one of the following is not one of the direct conclusions that can be drawn from Mendel's experiment?
- (a) Only one parental trait is expressed
 - (b) Two copies of each trait is inherited in sexually reproducing organisms
 - (c) For recessive trait to be expressed, both copies should be identical
 - (d) Natural selection can alter frequency of an inherited trait
- 94) Which one is a possible progeny in F_2 generation of pure breed tall plant with round seed and short plant with wrinkled seeds?
- (a) Tall plant with round seeds (b) Tall plant with wrinkled seeds (c) Short plant with round seed
- (d) All of the above
- 95) A section of DNA providing information for one protein is called
- (a) Nucleus (b) Chromosomes (c) Trait (d) Gene
- 96) Which of the following is a totally impossible outcome of Mendel's Experiment (cross breeding pure breed tall and short pea plants)
- (a) 3 tall 1 short plant
 - (b) 24 tall and 8 short plants
 - (c) 8 tall and 0 short plants
 - (d) 4 tall plants and 1 medium-height plant.
- 97) Which of the following is controlled by genes?
- (i) Weight of a person
 - (ii) Height of a person
- (a) only 1 (i) (b) only (ii) (c) both (i) and (ii) (d) Sometimes (i) and sometimes (ii)
- 98) Which one of the following is present in the nucleus?
- (a) Gene (b) DNA (c) Chromosomes (d) All of these
- 99) Amongst which of the following animals, sex of the offsprings not genetically determined
- (a) Humans (b) Snails (c) Birds (d) Dogs
- 100) What is the probability that a human progeny will be a boy
- (a) 50% (b) 56% (c) 47.34% (d) It varies

- 101) Who have a perfect pair of sex chromosomes
(a) Girls only (b) Boys only (c) Both girls and boys (d) It depends on many other factors
- 102) There is an inbuilt tendency of variation during reproduction because of-
(i) Errors in DNA copying (ii) Sexual reproduction
(a) only (i) (b) only (ii) (c) both (i) and (ii) (d) none of them
- 103) Which one of the following gives a survival advantage and thus alters frequency of inherited trait.
(i) natural selection (ii) genetic drift
(a) only (i) (b) only (ii) (c) both (i) and (ii) (d) none of these
- 104) If we breed a group of squirrels and surgically remove their tails, then amongst the progeny of these tailless squirrels
(a) All have no tail (b) All have a tail (c) Some of them have tails (d) Cannot be determined
- 105) With whom we associate theory of evolution
(a) Charles Darwin (b) Mendel. (c) Stanley Miller (d) Harold Urey
- 106) Formation of 2 independent species due to genetic drift, geographical isolation, natural selection is specifically referred as-
(a) Evolution (b) Classification (c) Speciation (d) Reproduction
- 107) Which of the following can be called a characteristic?
(a) Plants can photosynthesise (b) We have 2 eyes (c) Mango tree is multicellular (d) All of these
- 108) If A and B have n characteristics common while A and C have n/2 characteristics common, then which of the two organisms are more closely related?
(a) A and C (b) A and B (c) Characteristics need to be known (d) None of these
- 109) Homologous organs have
(a) Same structure, same function (b) Different structure, different function
(c) Same structure, different function (d) Same function, different structure
- 110) Analogous organs have
(a) Same structure, same function (b) Different structure, different function
(c) Same structure, different function (d) Same function, different structure
- 111) Fossils helps
(a) To study evolution (b) To understand climatic conditions in past
(c) For a hierarchy of organisms (classification (d) They help in all the above
- 112) How can we know how old fossils are:
(a) Fossils found closer to surface are recent than those found much below
(b) Detecting ratios of isotopes (c) Studying its characteristics (d) All of these
- 113) Which one of the following strongly indicates that bird and dinosaurs are closely related?
(a) They both have feathers (b) They both respire (c) They both reproduce
(d) They both have eyes
- 114) Wild cabbage is being cultivated for thousands of years and humans have generated broccoli, cauliflower, kala etc. from it. This is an example of
(a) Natural selection (b) Genetic drift (c) Geographic isolation (d) Artificial selection

- 115) Organism A recently came into existence while B was formed millions of years ago. What does this indicate?
(i) A is more efficient than B (ii) A is more complex than B.
(a) Only (i) (b) Only (ii) (c) Both (i) and (ii) (d) Either (i) or (ii)
- 116) Which one of the following is an artificial ecosystem?
(a) Pond (b) Crop field (c) Lake (d) Forest
- 117) In a food chain, the third trophic level is always occupied by
(a) Carnivores (b) Herbivores (c) Decomposers (d) Producers
- 118) An ecosystem includes
(a) All living organisms (b) Non-living objects (c) Both living organisms and non-living objects
(d) Sometimes living organisms and sometimes non-living objects
- 119) In the given food chain, suppose the amount of energy at fourth trophic level is 5 kJ, what will be the energy available at the producer level?
Grass → Grasshopper → Frog → Snake → Hawk
(a) 5 kJ (b) 50 kJ (c) 500 kJ (d) 5000 kJ
- 120) Accumulation of non-biodegradable pesticides in the food chain in increasing amount at each higher trophic level is known as
(a) Eutrophication (b) Pollution (c) Bio magnification (d) Accumulation
- 121) Depletion of ozone is mainly due to
(a) Chlorofluorocarbon compounds (b) Carbon monoxide (c) Methane (d) Pesticides
- 122) Organisms which synthesize carbohydrates from inorganic compounds using radiant energy are called
(a) Decomposers (b) Producers (c) Herbivores (d) Carnivores
- 123) In an ecosystem, the 10% of energy available for transfer from one trophic level to the next is in the form of
(a) Heat energy (b) Light energy (c) Chemical energy (d) Mechanical energy
- 124) Organisms of a higher trophic level which feed on several types of organisms belonging to a lower trophic level constitute the
(a) Food web (b) Ecological pyramid (c) Ecosystem (d) Food chain
- 125) Flow of energy in an ecosystem is always
(a) Unidirectional (b) Bidirectional (c) Multi directional (d) No specific direction
- 126) Excessive exposure of humans to U-V rays result in
(1) damage to immune system
(2) damage to lungs
(3) Multi directional
(4) peptic ulcers
(a) 1 and 4 (b) 2 and 4 (c) 1 and 3 (d) 3 and 4
- 127) In the following groups of materials, which group(s) contains only non-biodegradable items?
(1) Wood, paper, leather
(2) Polythene, detergent, PVC
(3) Plastic, detergent, grass
(4) Plastic, Bakelite, DDT
(a) 3 (b) 4 (c) 1 and 3 (d) 2 and 4
- 128) Which of the following limits the numbers of trophic levels in a food chain?
(a) Decrease in energy at higher trophic levels (b) Deficient food supply (c) Polluted air (d) Water

- 129) Which of the statement is incorrect?
- (a) All green plants and blue green algae are producers
 - (b) Green plants get their food from organic compounds
 - (c) Producers prepare their own food from inorganic compounds
 - (d) Plants convert solar energy into chemical energy
- 130) Which group of organisms are not constituents of a food chain?
- (1) Grass, lion, rabbit, wolf
 - (2) Plankton, man, fish, grasshopper
 - (3) Wolf, grass, snake, tiger
 - (4) Frog, snake, eagle, grass, grasshopper
- (a) 1 and 4 (b) 3 and 4 (c) 2 and 3 (d) 1 and 4
- 131) The percentage of solar radiation absorbed by all the green plants for the process of photosynthesis is about
- (a) 1 % (b) 5 % (c) 8 % (d) 10 %
- 132) What will happen if deer is missing in the food chain given below?
Grass → Deer → Tiger
- (a) The pollution of tiger increases (b) The pollution of grass decreases
 - (c) Tiger will start eating grass
 - (d) The pollution of tiger decreases and the pollution of grass increases
- 133) The decomposers in an ecosystem
- (a) Convert inorganic material, to simpler forms (b) Convert organic material to inorganic forms
 - (c) Convert inorganic materials into organic compounds (d) Do not breakdown organic compounds
- 134) If a grass hopper is eaten by a frog, then the energy transfer will be from
- (a) Producer to decomposer (b) Producer to primary consumer
 - (c) Primary consumer to secondary consumer (d) Secondary consumer to primary consumer
- 135) Disposable plastic plates should not be used because
- (a) They are made of materials with light weight (b) They are made of toxic materials
 - (c) They are made of biodegradable materials (d) They are made of non-biodegradable materials
- 136) Name the thing in our body which helps us to digest food?
- (a) hormone (b) enzymes (c) stomach (d) mouth
- 137) Which human-made material cannot be broken down by the action of bacteria?
- (a) human flesh (b) flesh of dead animal (c) vegetable peels (d) plastic
- 138) Which of the following is an example of biodegradable substance?
- (a) Glass (b) Plants (c) Plastics (d) Polythene
- 139) Which of the following is an example of non-biodegradable substance?
- (a) Virgin plastic (b) Plastic (c) Plants (d) Plant products
- 140) Which of the following actions may not affect the environment adversely
- (a) Plastic bags buried inside the earth (b) Planting of trees
 - (c) Excessive use of non-biodegradable pesticides (d) Burning of plastic bags.
- 141) Which of the following constituents do not form ecosystem?
- (a) Biotic constituents (b) Plastic bags (c) Abiotic constituents (d) All of these

- 142) Which of the following is an example of human made ecosystem?
(a) Aquarium (b) Sunlight (c) Wind (d) Water
- 143) Which of the following is a functional unit of environment?
(a) Ecosystem (b) Nitrogen (c) Carbon (d) Oxygen
- 144) Which of the following is an example of producers?
(a) Plastic pens (b) Plastic cans (c) Polythene (d) Green plants
- 145) Which of the following is an example of herbivores
(a) Cow (b) Shark (c) Lion (d) Tiger
- 146) Which of the following is the full form of CFC?
(a) Chlorofluorine carbon (b) Carbonchlorofluorine (c) Chlorinfluid carbon
(d) Chlorofluorocarbons
- 147) Which of the following is not an example of abiotic factors?
(a) Light (b) Plants (c) Heat (d) Temperature
- 148) Which of the following is the full form of UNEP?
(a) Unique National English Programme (b) United National Enrgy Programme
(c) United Nations Environment Programme (d) Union of Non-Environmental Plan
- 149) Which of the following is not a biodegradable pollutant?
(a) Paper (b) Cotton cloth (c) Cotton (d) DDT
- 150) Which of the following is terrestrial ecosystem?
(a) A natural forest (b) A lake (c) A pond (d) An aquarium
- 151) Which of the following belong to same trophic level?
(a) Cockroach and spider (b) Lizard and spider (c) Hawk and spider (d) Lizard and hawk
- 152) By which way autotrophs convert energy of food?
(a) Solar energy to chemical energy (b) Bio-gas to chemical energy (c) solar energy to bio-gas
(d) Chemical energy to solar energy
- 153) Which of the following is omnivore?
(a) Lion (b) Hawks (c) Jackal (d) Man
- 154) Which of the following is proper sequence of trophic levels?
(a) Producers, Herbivores, Top carnivores, Carnivores
(b) Top Carnivores, Carnivores, Herbivores, Producers
(c) Carnivores, Top Carnivores, Producers, Herbivores
(d) Herbivores, Carnivores, Producers, Top Carnivores
- 155) Which of the following is an example of food chain?
(a) Grass → Deer → Lion (b) Algae → Diatoms → Fish (c) Fish → Deer → Algae
(d) Grass → Frog → Birds
- 156) Which of the following is the formula of ozone
(a) O₃ (b) O₂ (c) O₄ (d) O₆
- 157) How many atoms of oxygen are there in ozone?
(a) 3 (b) 3 (c) 2 (d) 1

158) what is the nature of ozone?

- (a) It is deadly poisonous (b) It is fragrant (c) It is smooth (d) It causes purple smoke

159) It which of the following devices CFCs are not produced?

- (a) Refrigerators (b) Fire extinguishers (c) Pressurized cans (d) Pencil

160) Which of the following is not an effect of ultraviolet radiations?

- (a) Causes skin cancer (b) Causes sun burn (c) Causes eye disease (d) Causes typhoid

38 x 1 = 38

161) **Assertion:** The DNA in the cell nucleus is the information source for making proteins.

Reason: The change in information makes different protein and leads to altered body design.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
 (b). If both assertion and reason are true but reason is not a correct explanation of assertion.
 (c) If assertion is true and reason is false.
 (d) If both assertion and reason are false.

162) **Assertion:** Cells use chemical reactions to build copies of their DNA.

Reason: These copies are used to form new cells.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
 (b). If both assertion and reason are true but reason is not a correct explanation of assertion.
 (c) If assertion is true and reason is false.
 (d) If both assertion and reason are false.

163) **Assertion:** Variation is useful for the survival of species over time.

Reason: Variations in individuals would bring some chance for them to survive in any disaster

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
 (b). If both assertion and reason are true but reason is not a correct explanation of assertion.
 (c) If assertion is true and reason is false.
 (d) If both assertion and reason are false.

164) **Assertion:** The female germ cell is called an egg and it contains the stored energy.

Reason: The egg contains energy in the form of stored food.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
 (b). If both assertion and reason are true but reason is not a correct explanation of assertion.
 (c) If assertion is true and reason is false.
 (d) If both assertion and reason are false

165) **Assertion:** Stamen is the female reproductive part of the flower.

Reason: It produces pollen grains that are yellowish in colour and are female gametes.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
 (b). If both assertion and reason are true but reason is not a correct explanation of assertion.
 (c) If assertion is true and reason is false.
 (d) If both assertion and reason are false

166) **Assertion:** When a girl is born, the ovaries already contain thousands of immature eggs

Reason: One egg is produced every month by one of the ovaries.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
 (b). If both assertion and reason are true but reason is not a correct explanation of assertion.
 (c) If assertion is true and reason is false.
 (d) If both assertion and reason are false

167) **Assertion:** The ovary releases one egg every month.

Reason: This process is repeated every month and is called menstruation.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b). If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false

168) **Assertion:** Asexual reproduction is seen in small organisms

Reason: Budding is one type of asexual reproduction.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b). If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false

169) **Assertion:** All the sepals together are called corolla.

Reason: The function of sepals is to protect the flower in the bud stage.

Codes

- (a) Both A and R are true and R is correct explanation of the assertion.
- (b) Both A and R are true but R is not the correct explanation of the assertion.
- (c) A is true but R is false.
- (d) A is false but R is true.

170) **Assertion:** Fusion of gametes gives rise to a single cell called zygote.

Reason: Zygote is a fertilised ovum.

Codes

- (a) Both A and R are true and R is correct explanation of the assertion.
- (b) Both A and R are true but R is not the correct explanation of the assertion.
- (c) A is true but R is false.
- (d) A is false but R is true.

171) **Assertion:** Condom protects a person from the sexually transmitted diseases.

Reason: Condom prevents the sperms from meeting the ovum by acting as a barrier.

Codes

- (a) Both A and R are true and R is correct explanation of the assertion.
- (b) Both A and R are true but R is not the correct explanation of the assertion.
- (c) A is true but R is false.
- (d) A is false but R is true.

172) **Assertion:** The testes are present outside the abdominal cavity of the body.

Reason: Sperm formation requires a lower temperature than the normal body temperature.

Codes

- (a) Both A and R are true and R is correct explanation of the assertion.
- (b) Both A and R are true but R is not the correct explanation of the assertion.
- (c) A is true but R is false.
- (d) A is false but R is true.

173) **Assertion:** Self-pollination occurs when the pollen grains from the anther of a flower are transferred to the stigma of same flower or another flower on the same plant.

Reason: Insects and wind help in autogamy.

Codes

- (a) Both A and R are true and R is correct explanation of the assertion.
- (b) Both A and R are true but R is not the correct explanation of the assertion.
- (c) A is true but R is false.
- (d) A is false but R is true.

174) **Assertion:** Potato tuber is used for the vegetative reproduction of potato plant.

Reason: Potato tuber is an underground stem of the potato plant.

Codes

- (a) Both A and R are true and R is correct explanation of the assertion.
- (b) Both A and R are true but R is not the correct explanation of the assertion.
- (c) A is true but R is false.
- (d) A is false but R is true.

175) **Assertion:** Every germ cell will take one chromosome from each pair of parents.

Reason: These chromosomes may be either from maternal or paternal origin.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false.

176) **Assertion:** Women has perfect pairs of chromosomes

Reason: Men has mismatched pair of chromosomes.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false.

177) **Assertion:** Natural selection in a population of organisms leads to variation.

Reason: It results in adaptations in the population of organisms to fit their environment better.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false.

178) **Assertion:** Evolution took place due to natural selection

Reason: This also leads to variations which is seen in the species.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false.

179) **Assertion:** In humans, height is a trait which shows variation.

Reason: Some humans are very tall, some have medium height whereas others are short heighted.

Codes:

- (a) Both A and R are true and R is correct explanation of the assertion
- (b) Both A and R are true but R is not the correct explanation of the assertion
- (c) A is true but R is false
- (d) A is false but R is true.

180) **Assertion:** Accumulation of variation in a species increases the chances of its survival in changing environment.

Reason: Accumulation of heat resistance in some bacteria ensure their survival even when temperature in environment rises too much.

Codes:

- (a) Both A and R are true and R is correct explanation of the assertion
- (b) Both A and R are true but R is not the correct explanation of the assertion
- (c) A is true but R is false
- (d) A is false but R is true.

181) **Assertion:** Monohybrid cross deals with inheritance of one pair of contrasting characters.

Reason: Dihybrid cross deals with inheritance of two pairs of contrasting characters.

Codes:

- (a) Both A and R are true and R is correct explanation of the assertion
- (b) Both A and R are true but R is not the correct explanation of the assertion
- (c) A is true but R is false
- (d) A is false but R is true.

182) **Assertion:** When pea plants (pureline) having round yellow seeds are crossed with pureline plants having wrinkled green seeds, then all pea plants obtained in F₁ generation bear wrinkled green seeds.

Reason: Round and yellow seeds are dominant to wrinkled and green seeds.

Codes:

- (a) Both A and R are true and R is correct explanation of the assertion
- (b) Both A and R are true but R is not the correct explanation of the assertion
- (c) A is true but R is false
- (d) A is false but R is true.

183) **Assertion:** In some reptiles, the temperature at which fertilised egg is incubated before hatching plays a role in determining sex of offspring.

Reason: In turtle, high incubation temperature above 33°C leads to development of female offspring whereas in lizards high incubation temperature results in male offspring. **Codes:**

- (a) Both A and R are true and R is correct explanation of the assertion
- (b) Both A and R are true but R is not the correct explanation of the assertion
- (c) A is true but R is false
- (d) A is false but R is true.

184) **Assertion:** If mother is homozygous for black hair and father has red hair then their child can inherit black hair.

Reason: Gene for black hair is recessive to gene for red hair in humans.

Codes:

- (a) Both A and R are true and R is correct explanation of the assertion
- (b) Both A and R are true but R is not the correct explanation of the assertion
- (c) A is true but R is false
- (d) A is false but R is true.

185) **Assertion:** A heterozygous tall plant when crossed with homozygous dwarf plant will produce tall and dwarf plants in the ratio of 3 : 1.

Reason: A heterozygous tall plant will produce two types of gametes, i.e., one with T and other with t whereas homozygous dwarf plant produce all gametes with t only.

Codes:

- (a) Both A and R are true and R is correct explanation of the assertion
- (b) Both A and R are true but R is not the correct explanation of the assertion
- (c) A is true but R is false
- (d) A is false but R is true.

186) **Assertion:** A child which has inherited X chromosome from father will develop into a girl child.

Reason: Girl child inherits X chromosome from father and Y chromosome from mother.

Codes:

- (a) Both A and R are true and R is correct explanation of the assertion
- (b) Both A and R are true but R is not the correct explanation of the assertion
- (c) A is true but R is false
- (d) A is false but R is true.

187) **Assertion:** Genes present in every cell of an organism control the traits of the organisms.

Reason: Gene is specific segment of DNA occupying specific position on a chromosome.

Codes:

- (a) Both A and R are true and R is correct explanation of the assertion
- (b) Both A and R are true but R is not the correct explanation of the assertion
- (c) A is true but R is false
- (d) A is false but R is true.

188) **Assertion:** The flow of energy in food chain is unidirectional.

Reason: The energy that flows from grass to deer cannot get back to grass.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false.

189) **Assertion:** Ozone, is a deadly poison at the ground level.

Reason: Ozone at the higher levels of the atmosphere is protective in nature.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false.

190) **Assertion:** The waste we generate is biodegradable.

Reason: Plastic cups used for drinking tea and other drinks are all recyclable.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false.

191) **Assertion:** Living organisms form biotic component of environment

Reason: Non living part of environment are air, water, soil, etc.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false.

192) **Assertion:** A small food chain is better than the longer one.

Reason: The producers produce more energy in small food chain.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
- (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
- (c) If assertion is true and reason is false.
- (d) If both assertion and reason are false

193) **Assertion:** Using jute bags while shopping is more environment friendly as compared to polythene bags.

Reason: Jute is biodegradable whereas polythene bag is non-biodegradable.

Codes

- (a) Both A and R are true and R is correct explanation of the assertion.
- (b) Both A and R are true but R is not the correct explanation of the assertion.
- (c) A is true but R is false.
- (d) A is false but R is true.

194) **Assertion:** A food chain comprises of producers and consumers.

Reason: Consumers can be herbivores, carnivores and omnivores.

Codes

- (a) Both A and R are true and R is correct explanation of the assertion.
- (b) Both A and R are true but R is not the correct explanation of the assertion.
- (c) A is true but R is false.
- (d) A is false but R is true

195) **Assertion:** The second trophic level of a food chain operating in a grassland is mostly occupied by a carnivore.

Reason: Carnivores feed upon herbivores and are secondary consumers

Codes

- (a) Both A and R are true and R is correct explanation of the assertion.
- (b) Both A and R are true but R is not the correct explanation of the assertion.
- (c) A is true but R is false.
- (d) A is false but R is true

196) **Assertion:** The energy available to deer in a food chain is more as compared to that available to lion.

Reason : Deer occupies second trophic level whereas lion occupies first trophic level in a food chain operating in grassland ecosystem.

Codes

- (a) Both A and R are true and R is correct explanation of the assertion.
- (b) Both A and R are true but R is not the correct explanation of the assertion.
- (c) A is true but R is false.
- (d) A is false but R is true

197) **Assertion:** Gases used in cooling devices can lead to depletion of ozone layer of atmosphere.

Reason: Carbon monoxide which is widely used as coolant in refrigerator reacts with ozone and destroys it

Codes

- (a) Both A and R are true and R is correct explanation of the assertion.
- (b) Both A and R are true but R is not the correct explanation of the assertion.
- (c) A is true but R is false.
- (d) A is false but R is true

198) **Assertion :** Food waste can be converted to compost by burying in a pit dug into ground and used as manure.

Reason: Non-biodegradable wastes like fruit and vegetable peels, tea leaves, broken glass jar are ideal for composting

Codes

- (a) Both A and R are true and R is correct explanation of the assertion.
- (b) Both A and R are true but R is not the correct explanation of the assertion.
- (c) A is true but R is false.
- (d) A is false but R is true

2 x 1 = 2

199) The organs of the human male reproductive system are specialized for the following functions:

The scrotum is the loose pouch-like sac of skin that hangs behind the penis. It contains the testicles (also called testes), as well as many nerves and blood vessels. The scrotum has a protective function and acts as a climate control system for the testes. For normal sperm development, the testes must be at a temperature slightly cooler than the body temperature. The testes are responsible for making testosterone, the primary male sex hormone, and for producing sperm. Since the sperm that emerge from the testes are immature and incapable of fertilization, the epididymis stores them for the same. The vas deferens transports mature sperm to the urethra in preparation for ejaculation. The urethra is the tube that carries urine from the bladder to outside of the body. In males, it has the additional function of expelling (ejaculating) semen during sex. The penis is the male organ for sexual intercourse. The seminal vesicles produce a sugar-rich fluid (fructose) that provides sperm with a source of energy and helps with the sperms' motility (ability to move). The prostate gland is a walnut-sized structure that is located below the urinary bladder in front of the rectum. The prostate gland contributes additional fluid to the ejaculate. Prostate fluids also help to nourish the sperm. The urethra, which carries the ejaculate to be expelled during orgasm, runs through the center of the prostate gland and then through the penis.

Answer the following questions based on the above information

- (a) Why are testis place outside in scrotal sacs?
- (b) Secretion of which part of male system is vital for their nourishment and vitality?
- (c) What are the dual role of urethra in a male human being?
- (d) Name the duct that connects testis in scrotum to urethra in abdomen.

200) In human being, the sex of the individual 'is largely genetically determined. In other words, the genes inherited from our parents decide whether we will be boys or girls. Bilt so far, we have assured that similar gene sets are inherited from both parents. Most human chromosomes have a maternal and a paternal copy, and we have 22 such pairs. But one pair, called the sex chromosomes, is odd in not always being a perfect pair. Women have a perfect pair of sex chromosomes, both called X. But men have a mismatched pair in which one is a normal-sized X white the other is a short one called Y. So women are XX, while men are XY.

In some animals the temperature at which the eggs are kept decides the gender.

Answer the following questions based on the above information

- (a) In which animal, male has two different sex chromosomes unlike the female?
- (b) What is the name given to set of unpaired chromosomes of an organism?
- (c) Give an example where sex determination is regulated by environmental factors.
- (d) A pregnant woman has an equal chance of her baby being blood group A or blood group AB. What is the possible genotype of woman and father of the child?
