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Q2

A clone is a group of:

(a) Genetically similar organisms produced through asexual reproduction (b) Genetically similar organisms produced through sexual reproduction (c) Genetically dissimilar organisms produced as a result of asexual reproduction (d) Genetically dissimilar organisms produced as a result of sexual reproduction

Q3

The technique of obtaining large number of plantlets through the tissue culture method is called:

(a) Plantlet Culture (b) Organ Culture (c) Micro Propagation (d) Macro Propagation

Q4

In which plant, is bud grafting practiced?

(a) Apple (b) Peach (c) Rose (d) All of these

Q5

What involves the fusion of gametes which differ in terms of size or motility?

(a) An isogamy (b) Heterogamy (c) Oogamy (d) Both (a) and (b)

PART A: CLASS XII BOTANY

Q1

Vegetative propagation plays a vital role in:

(a) Sericulture (b) Apiculture (c) Sylriculture (d) Horticulture

1

Q7

Which one of the following is a transgenic plant?

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(a) Flavrsarv (b) Ashbyagossypii (c) Meloidogyne incognita (d) Gluconobacteroxidans

Q8

This kind of interferon is produced when leucocytes and lymphocytes are exposed to virus:

(a) Interferon – a (b) Interferon – b (c) Interferon – g (d) None of these

Q9

A parasite can be defined as an organism which depends on others for:

(a) Food (b) Shelter (c) Both food and shelter (d) Reproduction

Q10

A tropical rainforest is:

(a) Single – storeyed (b) Double – storeyed (c) Multi storeyed (d) None of these

Q6

Which one of the following is not an item of bio piracy?

(a) Micro organisms (b) Plants (c) Animals (d) Abiotic chemicals

2

Q12

Which horizon in soil profile is the area of illuviation?

(a) A – Horizon (b) B – Horizon (c) C – Horizon (d) Bedrock horizon

Q13

Which type of water is absorbed or imbibed by the soil colloids?

(a) Hygroscopic water (b) Water vapour (c) Combined water (d) Capillary water

Q14

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Which type of age pyramid is made for stable population?

(a) Triangular Age pyramid (b) Bell – shaped Age pyramid (c) Urn shaped pyramid (d) Inverted triangular age pyramid

Q15

The breakdown of detritus into small particles by bacteria is a process called:

(a) Mineralisation (b) Catabolism (c) Humification (d) Fragmentation

Q11

A tropical rainforest is:

(a) Littoral zone (b) Limnetic zone (c) Disphotic zone (d) Benthic zone

3

Q17

The tip of an ecological pyramids occupied by:

(a) Producers (b) Herbivores (c) Carnivores (d) None of these

Q18

The percentage of energy converted into biomass by a higher trophic level over the energy of food resources available at the lower trophic level is called:

(a) Photosynthetic efficiency (b) Net production efficiency (c) Assimilation efficiency (d) Ecological efficiency

Q19

The management of forests or woodlands for the production of timber and other wood products is called:

(a) Apiculture (b) Sericulture (c) Silviculture (d) Forestry

Q20

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When was the first Earth Day celebrated?

(a) 1950 (b) 1970 (c) 1980 (d) 1955

Q16

Carnivores represent:

(a) Primary consumers (b) Secondary consumers (c) Secondary and tertiary consumers (d) Reducers

4

Q21 Refer Fig. 2.13. Name the unlabeled area 'a' to 'e' of the pie chart representing biodiversity of vertebrates showing the proportionate number of species of major taxa:

(a) a – Fish, b – Mammals, c – Birds, d – Reptiles, e – Amphibians (b) a – Mammals, b – Amphibians, c – Reptiles, d – Birds, e – Fish (c) a – Birds, b – Amphibians, c – Fish, d – Mammals, e – Reptiles (d) a – Fish, b – Reptiles, c – Amphibians, d – Birds, e – Mammals

Q22

The species listed in Red Data book are:

(a) vulnerable (b) threatened (c) endangered (d) all of these

Q23

Which one is non - biodegradable?

(a) Sewage (b) Market garbage (c) Liver stock waste (d) DDT

Q24

Which particulate size is biodegradable?

(a) 1.0 μm or less (b) 1.5 μm or less (c) 2.5 μm or less (d) 5.2 μm - 2.5 μm

5

Q25

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Shifting cultivation is:

(a) Agroforestry (b) Social forestry (c) Conservation forestry (d) Industrial forestry

Q26

The global agreement for reducing the release of CFCs is:

(a) Vienna Convention (b) Rio de Janeiro Conference (c) Kyoto Protocol (d) Montreal Protocol

Q27

Match the following:

A Virus Free 1 Intact root

B Root cutting 2 In vitro

C Delbergia 3 Black berry

D Mound layering 4 Jasmine

(a) A – 1, B – 3, C – 2, D – 4 (b) A – 2, B – 3, C – 1, D – 4 (c) A – 2, B – 1, C – 3, D – 4 (d) A – 2, B – 3, C – 4, D – 1

Q28

Which one of the following is a seasonal breeder?

(a) Mice (b) Deer (c) Poultry (d) Rabbit

6

Q29

In vegetative propagation, when a branch is injured, defoliated and pegged down in the ground, this process is known as:

(a) Layering (b) Grafting (c) Cutting (d) Bud Grafting

Q30

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Bird pollination is:

(a) Chiropterophily (b) Ornithophily (c) Malacophily (d) Myrmecophily

Q31

Ciesitogamous flowers are:

(a) Self – pollinated (b) Insect – pollinated (c) Bird – pollinated (d) Wind – pollinated

Q32

Which one of the following is not an application of Lactic acid?

(a) Food preservative (b) Manufacture of cheese and yoghurt (c) Fabric treatment in textile industry (d) All of these

Q33

Double fertilization involves the fertilization of:

(a) An egg by two male gametes (b) Egg and central cell by two sperms brought by two sperms brought by two sperms brought by two different pollen tubes (c) Two eggs in the same embryo sac by two sperms brought by one pollen tube (d) Egg and central cell by two sperms brought by same pollen tube

7

Q34

Which one is a dominant trait out of the characters chosen by Mendel?

(a) Pod color – Yellow (b) Seed Color – White (c) Flower position – Axillary (d) Plant height Dwarf

Q35

Heterozygous tall (Tt) is crossed with homozygous tall (TT). Percentage of heterozygous tall in the progeny would be:

(a) 25% (b) 50% (c) 75% (d) 100%

Q36

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The 9 : 3 : 3 : 1 ratio is due to:

(a) Segregation (b) Independent assortment (c) Crossing over (d) Homologous pairing

Q37

Variations observed during tissue culture of some plants are known as:

(a) Clonal variations (b) Soma clonal variations (c) Somatic variations (d) Tissue culture variations

Q38

India's wheat yield revolution in the 1960s was possible primarily due to:

(a) Hybrid seeds (b) The development of sem – dwarf variety of wheat (c) Mutations resulting in plant height reduction (d) Quantitative trait mutations

8

Q39

Which ones of the following have been included in the genre of bio – pesticides?

(a) Viruses and bacteria (b) Viruses, bacteria and fungi (c) Viruses, bacteria, fungi, protozoa and mites (d) Viruses, bacteria, fungi and protozoa

Q40

Mycorrhiza promotes plant growth by:

(a) Absorbing inorganic ions from soil (b) Helping the plant in utilizing atmospheric nitrogen (c) Protecting the plant from infection (d) Serving as plant growth regulator

Q41

Agarose extracted from seaweeds is used in:

(a) Spectrophotometry (b) Tissue culture (c) PCR (d) Gel electrophoresis

Q42

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The main objective of production/ use of herbicide – resistant GM crops is the:

(a) Elimination weeds from the field without the use of herbicides (b) Promotion of eco – friendly herbicides (c) Reduction of herbicide accumulation in food articles for health safety (d) Elimination of weeds from the field without the use of manual labor

Q43

Which one of the following combinations is incorrect?

(a) Bean Seed: Endospermic and Monocotyledonous (b) Maize Grain: Endospermic and Monocotyledonous (c) Castor Seed: Endospermic and Dicotyledonous (d) Bean Seed: Non – endospermic and Dicotyledonous

9

Q44

Xerophytes possess:

(a) Sunken stomata (b) Deep roots (c) Thick cuticles (d) All of these

Q45

Green muffler is related to the pollution of:

(a) Soil (b) Air (c) Noise (d) Water

PART B: CLASS XII

ZOOLOGY

Q46

Which extra embryonic membrane in humans prevents desiccation of the embryo inside the uterus?

(a) Allantois (b) Yolk sac (c) Amnion (d) Chorion

Q47

Cryptorchidism is a condition in which:

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(a) Testis does not descend into scrotal sac (b) Sperm is not found (c) Male harmines are not reactive (d) Ovaries are removed

Q48

Human egg is:

(a) Centrolecithal (b) Alecithal (c) Teloecithal (d) Megalecithal

10

Q49

Saheli is:

(a) An oral contraceptive for females (b) A surgical sterilization method for females (c) A diaphragm for females (d) A surgical method of sterilization in males

Q50

Chancroid is a sexually transmitted disease caused by:

(a) Treponema (b) Haemophilus (c) Neisseria (d) Chlamydiae

Q51

What is correct about the test tube baby?

(a) Fertilization inside female genital tract and growth in test tube (b) Rearing of prematurely born baby in an incubator (c) Fertilization outside and gestation inside the womb of mother (d) Both ferhilization and development are effected outside the female genital tract

Q52

Which one is related to males?

(a) Oral pills (b) Tubectomy (c) Vasectomy (d) None of these

Q53

A test cross is:

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(a) Tt x tt (b) TT x tt (c) Tt x Tt (d) Tt x tt

11

Q54

Pleotropic effect is found in:

(a) Human skin color (b) Night blindness (c) Hemophilia (d) Sickle cell anemia

Q55

The exon part of m – RNA has a code for:

(a) Polypeptides (b) Carbohydrates (c) Lipids (d) Phospholipids

Q56

Which one of the following carries genetic messages to ribosomes?

(a) tRNA (b) rRNA (c) mRNA (d) HnRNA

Q57

Refer Fig. 2.14. What do parts, a, b and c represent?

(a) DNA, H1 Histone, core to histone molecule (b) Core of Histone molecule, DNA, H1 Histone (c) H1 Histone, core of Histone molecule, DNA (d) H1 Histone, DNA, core of Histone molecule

12

Q58

Which one of the following is the correct sequence in the evolution of the horse?

(a) Mesohippus → Pliohippus → Merychippus → Equus (b) Mesohippus → Eohippus → Merychippus → Equus (c) Eohippus → Mesohippus → Merychippus → Pliohippus (d) Eohippus → Merychippus → Mesohippus → Pliohippus

Q59

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Palaentological evidence in favor of organic evolution can best be illustrated by:

(a) Duck – billed platypus (b) Archaeopteryx (c) Darwin’s finches (d) Bistonbetalaria

Q60

‘Dexterity’ in man means that:

(a) He has an erect posture (b) He has binocular vision (c) His brain volume is more (d) His thumb is opposite to his fingers

Q61

In the immune system, interferon’s are part of:

(a) Physiological barriers (b) Cellular barriers (c) Physical barriers (d) Cytokine barriers

Q62

Emphysema is:

(a) A type of depression (b) Insanity due to psychosis (c) The tendency to take much water (d) A respiratory disease

13

Q63

Macrophages are also known as:

(a) Tumor cells (b) Natural killer cells (c) Phagocytes (d) B – cells

Q64

Which one is a Neem product and used as an insect repellent?

(a) Azadirachtin (b) Rotenone (c) Parathione (d) Endrin

Q65

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The sewage treatment process in which a part of decomposer microbes is recycled into the starting process is:

(a) Primary treatment (b) Activated sludge treatment (c) Catalytic treatment (d) Tertiary treatment

Q66

The vector for t – DNA is:

(a) *Thermos aquaticus* (b) *Salmonella typhimurium* (c) *Agrobacterium tumefaciens* (d) *Escherichia coli*

Q67

In which method, is foreign DNA directly injected into nucleus of animal cells or plant cell?

(a) Microinjection (b) Electroporation (c) Chemical Mediated Gene Transfer (d) Gene Gun Method

14

Q68

The enzyme the degrades starches is:

(a) Lipase (b) Amylase (c) Lactase (d) Protease

Q69

A patient is suspected to be suffering from Acquired Immuno Deficiency Syndrome (AIDS). Which diagnostic technique will you recommend for its detection?

(a) ELISA (b) MRI (c) Ultrasound (d) WIDAL

Q70

Which one of the following are hermaphrodites?

(a) Earthworm, Hydra and Leech (b) Cockroach, Ascaris and Hydra (c) Earthworm, Ascaris and Leech (d) Ascaris, Cockroach and Hydra

Q71

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Which cell organelle is absent in the human sperm:

(a) Endoplasmic Reticulum (b) Mitochondria (c) Nucleus (d) Centrioles

Q72

The part of Fallopian tube closest to the ovary is:

(a) Isthmus (b) Infundibulum (c) Cervix (d) Ampulla

15

Q73

Sertoli cells are found in testis. These cells are:

(a) Nurse cells (b) Reproductive cells (c) Receptor cells (d) None of these

Q74 Column I contains terms and Column II contains definitions. Match them correctly and choose the right answer:

Column I Column II

A. Parturition 1. Attachment of zygote to endometrium

B. Gestation 2. Release of egg from Graafian follicle

C. Ovulation 3. Delivery of baby from uterus

D. Implantation 4. Duration between pregnancy and birth

E. Conception 5. Formation of zygote by fusion of egg and sperm

6. Stoppage of ovulation and menstruation

(a) A - 2, B - 4, C - 1, D - 5, E - 3 (b) A - 4, B - 3, C - 1, D - 5, E - 2 (c) A - 5, B - 1, C - 2, D - 3, E - 4 (d) A - 3, B - 4, C - 2, D - 1, E - 5

Q 75

What is correct about amniocentesis?

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(a) Intrauterine diagnosis (b) Withdrawal of allantoic fluid from pregnant woman (c) Chemical analysis of fluids of pregnant woman (d) Culturing of amniotic cells and the study of metaphysics chromosomes for identifying chromosomal abnormality

16

Q76

Tubectomy, a method of population control, is performed on:

(a) Both males and females (b) Males only (c) Females only (d) Only pregnant females

Q77

Medical termination of Pregnancy (MTP) is considered safe up to how many weeks of pregnancy?

(a) Eight weeks (b) Twelve weeks (c) Eighteen weeks (d) Six weeks

Q78

Cri du chat is due to chromosomal aberration, called:

(a) Duplication (b) Inversion (c) Deletion (d) Translocation

Q79

A sex – linked disorder is:

(a) Albinism (b) Phenylketonuria (c) Hemophilia (d) Sickle Cell Anemia

Q80

Which one of the following Igs is nearly 0.2 percent of all antibodies in the human blood?

(a) IgD (b) IgE (c) IgM (d) IgA

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Q81

Hybrid cells proliferate into cells which are known as:

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(a) Monoclonal antibodies (b) Hybridisms (c) Hybrid Structures (d) None of these

Q82

Match the causative organisms with their diseases:

A. Haemophilus influenza 1. Malignant malaria

B. Endameba histolytic a 2. Elephantiasis

C. Plasmodium falciparum 3. Pneumonia

D. Wuchereriabancrofti 4. Typhoid

E. Salmonella typhi 5. Amoebiasis

(a) A – 1, B – 5, C – 3, D – 2, E – 4 (b) A – 3, B – 5, C – 1, D – 2, E – 4 (c) A – 5, B – 1, C – 3, D – 4, E – 2 (d) A – 1, B – 3, C – 2, D – 5, E – 4 (e) A – 1, B – 3, C – 5, D – 2, E – 4

Q83

The most abundant immunoglobulin is:

(a) IgA (b) IgE (c) IgG (d) IgD

Q84

Asthma is characterized by:

(a) Spasm in the bronchial muscle (b) Alveolar wall degradation (c) Pain in lungs (d) Damage to diaphragm

18

Q85

Mule is produced by:

(a) Selection (b) In – breeding (c) Inter – specific hybridization (d) Cross – breeding

Q86

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The fish reared in culture fishery in India are:

(a) Salmon and Rohu (b) Salmon and Catla (c) Catla and Magur (d) Rohu and Catla

Q87

The first ever hormone prepared by genetic engineering was:

(a) Oxytocin (b) Somato – tropin (c) Adrenalin (d) Insulin

Q88

The reagent used in ELISA test is:

(a) Endonuclease (b) Polymerase (c) Ligase (d) Peroxidase

Q89

Female mosquitoes sucking human blood at intervals are:

(a) Permanent parasites (b) Endoparasites (c) Hemi parasites (d) Intermittent parasites

1

19

Q90

A food chain can have the following trophic level (s).

(a) Three or four (b) Three (c) Two (d) One

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