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NEET STRATEGIES FOR ENHANCEMENT IN FOOD PRODUCTION — PYQS

Max. Marks: 224 **Questions:** 56

Section A (MCQ) — 56 questions

Q.1 The capacity to generate a whole plant from any cell of the plant is called: [NEET (UG) 2024]

(1) Totipotency (2) Micropropagation
(3) Differentiation (4) Somatic hybridization

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Q.2 Which of the following are fused in somatic hybridization involving two varieties of plants? [NEET (UG) 2024]

(1) Callus (2) Somatic embryos
(3) Protoplasts (4) Pollens

Scan or tap for the full solution

Q.3 Which one of the following is NOT an advantage of inbreeding? [NEET (UG) 2023]

(1) It exposes harmful recessive genes that are eliminated by selection.
(2) Elimination of less desirable genes and accumulation of superior genes takes place due to it.
(3) It decreases the productivity of inbred population, after continuous inbreeding.
(4) It increases homozygosity.

Scan or tap for the full solution

Q.4 Breeding crops with higher levels of vitamins and minerals or higher proteins and healthier fats is called: [NEET (UG) 2022]

(1) Bio-magnification (2) Bio-remediation
(3) Bio-fortification (4) Bio-accumulation

Scan or tap for the full solution

Q.5 Given below are two statements: one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**.

Assertion (A): Spirulina is a microbe that can be used for reducing environmental pollution.

Reason (R): Spirulina is a rich source of protein, carbohydrates, fats, minerals and vitamins.

In the light of the above statements, choose the most appropriate answer from the options given below: [NEET (UG) 2022 (Phase 2)]

(1) (A) is not correct but (R) is correct
(2) Both (A) and (R) are correct and (R) is the correct explanation of (A)
(3) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(4) (A) is correct but (R) is not correct

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Q.6 Select the incorrect statement with respect to inbreeding of animals. [NEET (UG) 2022 (Phase 2)]

(1) It exposes harmful recessive genes that are eliminated by selection.
(2) It is used for evolving pure lines in cattle.
(3) It helps in accumulation of superior genes and elimination of less desirable genes.
(4) It decreases homozygosity.

Scan or tap for the full solution

Q.7 Mutations in plant cells can be induced by : [NEET (UG) 2021]

(1) Zeatin (2) Kinetin
(3) Infrared rays (4) Gamma rays

Scan or tap for the full solution

Q.8 Match **List-I** with **List-II**.

	List-I		List-II
a.	Protoplast fusion	i.	Totipotency
b.	Plant tissue culture	ii.	Pomato
c.	Meristem culture	iii.	Somaclones
d.	Micropropagation	iv.	Virus free plants

Choose the correct answer from the options given below. [NEET (UG) 2021]

(1) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)
(2) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
(3) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)
(4) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)

Solution

Q.9 Which of the following is not an objective of Biofortification of crops? [NEET (UG) 2021]
(1) Improve micronutrient and mineral content
(2) Improve protein content
(3) Improve resistance to diseases
(4) Improve vitamin content

Solution

Q.10 Which of the following is not a step in Multiple Ovulation Embryo Transfer Technology (MOET)? [NEET (UG) 2021]
(1) Fertilized eggs are transferred to surrogate mothers at 8-32 cell stage
(2) Cow is administered hormone having LH like activity for super ovulation
(3) Cow yields about 6-8 eggs at a time
(4) Cow is fertilized by artificial insemination

Scan or tap for the full solution

Q.11 By which method was a new breed 'Hisardale' of sheep formed by using Bikaneri ewes and Merino rams? [NEET (UG) 2020]
(1) Out crossing (2) Mutational breeding
(3) Inbreeding (4) Cross breeding

Scan or tap for the full solution

Q.12 Select the **incorrect** statement. [NEET (UG) 2019]
(1) Inbreeding selects harmful recessive genes that reduce fertility and productivity.
(2) Inbreeding helps in accumulation of superior genes and elimination of undesirable genes.
(3) Inbreeding increases homozygosity.
(4) Inbreeding is essential to evolve purelines in any animal.

Scan or tap for the full solution

Q.13 Homozygous purelines in cattle can be obtained by : [NEET 2017]
(1) mating of related individuals of same breed
(2) mating of individuals of different species
(3) mating of individuals of different breed
(4) mating of unrelated individuals of same breed

Scan or tap for the full solution

Q.14 Interspecific hybridisation is the mating of [NEET 2016 (Phase 2)]
(1) animals within same breed without having common ancestors
(2) superior males and females of different breeds
(3) more closely related individuals within same breed for 4-6 generations
(4) two different related species

Scan or tap for the full solution

Q.15 Among the following edible fishes, which one is a marine fish having rich source of omega-3 fatty acids ? [NEET 2016 (Phase 2)]
(1) Mangur (2) Mystus
(3) Mackerel (4) Mrigala

Scan or tap for the full solution

Q.16 Outbreeding is an important strategy of animal husbandry because it : [AIPMT 2015]
(1) helps in accumulation of superior genes.
(2) is useful in overcoming inbreeding depression.
(3) is useful in producing purelines of animals.
(4) exposes harmful recessive genes that are eliminated by selection.

Scan or tap for the full solution

Q.17 A protoplast is a cell - [AIPMT 2015]
(1) undergoing division
(2) without plasma membrane
(3) without nucleus
(4) without cell wall

Solution

Q.18 A technique of micropropagation is [AIPMT 2015 (Cancelled)]
(1) somatic embryogenesis
(2) embryo rescue
(3) protoplast fusion
(4) somatic hybridisation

Solution

Q.19 Which of the following enhances or induces fusion of protoplasts ? [AIPMT 2015 (Cancelled)]
(1) Sodium chloride and potassium chloride
(2) IAA and kinetin
(3) Polyethylene glycol and sodium nitrate
(4) IAA and gibberellins

Scan or tap for the full solution

Q.20 To obtain virus-free healthy plants from a diseased one by tissue culture technique, which part/parts of the diseased plant will be taken ? [AIPMT 2014]
(1) Epidermis only
(2) Palisade parenchyma
(3) Both apical and axillary meristems
(4) Apical meristem only

Scan or tap for the full solution

Q.21 In vitro clonal propagation in plants is characterized by : [AIPMT 2014]

(1) Microscopy

(2) Northern blotting

(3) Electrophoresis and HPLC

(4) PCR and RAPD

Solution

Q.22 In plant breeding programmes, the entire collection (of plants/seeds) having all the diverse alleles for all genes in a given crop is called : [NEET 2013]

(1) germplasm collection

(2) evaluation and selection of parents

(3) selection of superior recombinants

(4) cross-hybridisation among the selected parents

Scan or tap for the full solution

Q.23 Tissue culture technique can produce infinite number of new plants from a small parental tissue. The economic importance of the technique is in raising: [NEET 2013 (Karnataka)]

(1) development of new species

(2) genetically uniform population identical to the original parent

(3) variants through picking up somaclonal variations

(4) homozygous diploid plants

Scan or tap for the full solution

Q.24 Which of the following statements is not true about somatic embryogenesis ? [NEET 2013 (Karnataka)]

(1) Somatic embryos can develop from microspores

(2) Somatic embryo is induced usually by an auxin such as 2,4-D

(3) The pattern of development of a somatic embryo is comparable to that of a zygotic embryo

(4) A somatic embryo develops from a somatic cell

Scan or tap for the full solution

Q.25 Consider the following four statements (a-d) and select the option which includes all the correct ones only :

A. Single cell *Spirulina* can produce large quantities of food rich in protein, minerals, vitamins etc.

B. Body weight-wise the microorganisms *Methylophilus methylotrophus* may be able to produce several times more proteins than the cow per day

C. Common button mushrooms are a very rich source of vitamin C

D. A rice variety has been developed which is very rich in calcium [AIPMT 2012 (Mains)]

(1) Statements B, C and D

(2) Statements C, D

(3) Statements A, C and D

(4) Statements A, B

Solution

Q.26 Green revolution in India occurred during - [AIPMT 2012 (Mains)]

(1) 1980's (2) 1950's (3) 1960's (4) 1970's

Scan or tap for the full solution

Q.27 Which one of the following is a case of wrong matching? [AIPMT 2012 (Prelims)]

(1) Somatic hybridization - Fusion of two diverse cells

(2) Callus - Unorganised mass of cells produced in tissue culture

(3) Vector DNA - Site for tRNA synthesis

(4) Micropropagation - In vitro production of plants in large numbers

Scan or tap for the full solution

Q.28 Which part would be most suitable for raising virus-free plants for micropropagation? [AIPMT 2012 (Prelims)]

(1) Vascular tissue (2) Node

(3) Bark (4) Meristem

Scan or tap for the full solution

Q.29 When two unrelated individuals or lines are crossed, the performance of F_1 hybrid is often superior to both parents. This phenomenon is called : [AIPMT 2011 (Prelims)]

(1) Splicing (2) Transformation

(3) Heterosis (4) Metamorphosis

Scan or tap for the full solution

Q.30 A collection of plants and seeds having diverse alleles of all the genes of a crop is called : [AIPMT 2011 (Prelims)]

(1) Gene library (2) Genome
(3) Germplasm (4) Herbarium

Scan or tap for the full solution

Q.31 "Jaya" and "Ratna" developed for green revolution in India are the varieties of : [AIPMT 2011 (Prelims)]
(1) Bajra (2) Wheat (3) Maize (4) Rice

Scan or tap for the full solution

Q.32 'Himgiri' developed by hybridisation and selection for disease resistance against rust pathogens is a variety of : [AIPMT 2011 (Prelims)]
(1) Chilli (2) Sugarcane
(3) Wheat (4) Maize

Scan or tap for the full solution

Q.33 Breeding of crops with high levels of minerals, vitamins and proteins is called – [AIPMT 2010 (Prelims)]
(1) Biofortification (2) Biomagnification
(3) Micropropagation (4) Somatic hybridisation

Scan or tap for the full solution

Q.34 Somaclones are obtained by : [AIPMT 2009]
(1) Tissue culture (2) Plant breeding
(3) Genetic engineering (4) Irradiation

Scan or tap for the full solution

Q.35 Which one of the following is linked to the discovery of Bordeaux mixture as a popular fungicide? [AIPMT 2008]
(1) Downy mildew of grapes
(2) Bacterial leaf blight of rice
(3) Loose smut of wheat
(4) Black rust of wheat

Solution

Q.36 Consider the following four measures (i-iv) that could be taken to successfully grow chickpea in an area where bacterial blight disease is common:
(i) Spray with Bordeaux mixture
(ii) Control of the insect vector of the disease pathogen
(iii) Use of only disease-free seeds
(iv) Use of varieties resistant to the disease
Which two of the above measures can control the disease? [AIPMT 2008]
(1) (i) and (ii) (2) (i) and (iv)
(3) (ii) and (iii) (4) (iii) and (iv)

Scan or tap for the full solution

Q.37 In cloning of cattle a fertilized egg is taken out of the mother's womb and: [AIPMT 2007]
(1) In the eight cell stage the individual cells are separated under electrical field for further development in culture media
(2) The egg is divided into 4 pairs of cells which are implanted into the womb of other cows
(3) In the eight cell stage, cells are separated and cultured until small embryos are formed which are implanted into the womb of other cows
(4) From this up to eight identical twins can be produced

Scan or tap for the full solution

Q.38 Which one of the following is a viral disease of poultry? [AIPMT 2007]
(1) Salmonellosis (2) Newcastle disease
(3) Pasteurellosis (4) Coryza

Scan or tap for the full solution

Q.39 In maize, hybrid vigour is exploited by:- [AIPMT 2007]
(1) Crossing of two inbred parental lines
(2) Bombarding the seeds with DNA
(3) Harvesting seeds from the most productive plants
(4) Inducing mutations

Scan or tap for the full solution

Q.40 Crop plants grown in monoculture are- [AIPMT 2006]
(1) Characterised by poor root system
(2) Highly prone to pests
(3) Low in yield
(4) Free from intraspecific competition

Scan or tap for the full solution

Q.41 In Maize, hybrid vigour is exploited by- [AIPMT 2006]
(1) Crossing of two inbred parental lines
(2) Inducing mutations
(3) Harvesting seeds from the most productive plants
(4) Bombarding the protoplast with DNA

Scan or tap for the full solution

Q.42 In order to obtain virus-free plants through tissue culture the best method is- [AIPMT 2006]

(1) Anther culture (2) Protoplast culture
(3) Meristem culture (4) Embryo rescue

Scan or tap for the full solution

Q.43 Triticale, the first man-made cereal crop, has been obtained by crossing wheat with [AIPMT 2006]
(1) Pearl millet (2) Sugarcane
(3) Rye (4) Barley

Scan or tap for the full solution

Q.44 The world's highly prized wool yielding 'Pashmina' breed is - [AIPMT 2005]
(1) Sheep
(2) Goat-sheep cross
(3) Kashmir sheep-Afghan sheep cross
(4) Goat

Scan or tap for the full solution

Q.45 Three crops that contribute maximum to global food grain production are - [AIPMT 2005]
(1) Wheat, maize and sorghum
(2) Wheat, rice and barley
(3) Wheat, rice and maize
(4) Rice, maize and sorghum

Solution

Q.46 Which of the following is generally used for induced mutagenesis in crop plants ? [AIPMT 2005]
(1) UV (260 nm)
(2) Alpha particles
(3) Gamma rays (from cobalt-60)
(4) X-rays

Solution

Q.47 The name of Norman Borlaug is associated with- [AIPMT 2005]
(1) Blue Revolution (2) Yellow Revolution
(3) Green Revolution (4) White Revolution

Scan or tap for the full solution

Q.48 The technique of obtaining large number of plantlets by tissue culture method is called – [AIPMT 2004]
(1) Macropropagation (2) Organ culture
(3) Plantlet culture (4) Micropropagation

Scan or tap for the full solution

Q.49 India's wheat yield revolution in the 1960s was possible primarily due to :- [AIPMT 2004]
(1) Hybrid seeds
(2) Quantitative trait mutations
(3) Increased chlorophyll content
(4) Mutations resulting in plant height reduction

Scan or tap for the full solution

Q.50 Cellular totipotency is demonstrated by : [AIPMT 2003]
(1) All eukaryotic cells
(2) Only gymnosperm cells
(3) Only bacterial cells
(4) All plant cells

Solution

Q.51 What is the reason of formation of embryoid from pollen grain in tissue culture medium ? [AIPMT 2002]
(1) Double fertilization (2) Test tube culture
(3) Cellular totipotency (4) Organogenesis

Scan or tap for the full solution

Q.52 Which of the following crops have been brought to India from New world ? [AIPMT 2002]
(1) Mango, tea
(2) Coffee
(3) Tea, rubber, mango
(4) Cashewnut, potato, rubber

Solution

Q.53 Which statement is correct about centre of origin of plant ? [AIPMT 2001]
(1) Climatic condition more favourable
(2) More diversity in improved variety
(3) None
(4) Frequency of dominant gene is more

Scan or tap for the full solution

Q.54 Before the European invasion, which vegetables were absent in India? [AIPMT 2001]
(1) Simla mirch and Brinjal
(2) Bitter gourd
(3) Maize and chichinda
(4) Potato and Tomato

Solution

Q.55 Triticale is obtained by crossing wheat with [AIPMT 2001]
(1) Barley (2) Rye (3) Oat (4) Maize

Scan or tap for the full solution

Q.56 Which statement is correct? [AIPMT 2000]
(1) Workers are the smallest of the three castes
(2) Wax is waste material of honey bee
(3) Drone of honey bee is diploid
(4) *A. indica* is largest wild honey bee

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ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	**1**	**3**	**3**	**3**	**3**	**4**	**4**	**3**	**3**	**2**	**4**
Ques.	12	13	14	15	16	17	18	19	20	21	22
Ans.	**1**	**1**	**4**	**3**	**2**	**4**	**1**	**3**	**3**	**4**	**1**
Ques.	23	24	25	26	27	28	29	30	31	32	33
Ans.	**2**	**1**	**4**	**3**	**3**	**4**	**3**	**3**	**4**	**3**	**1**
Ques.	34	35	36	37	38	39	40	41	42	43	44
Ans.	**1**	**1**	**2**	**3**	**2**	**1**	**2**	**1**	**3**	**3**	**4**
Ques.	45	46	47	48	49	50	51	52	53	54	55
Ans.	**3**	**3**	**3**	**4**	**4**	**4**	**3**	**4**	**2**	**4**	**2**
Ques.	56										
Ans.	**1**										

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