SECTION A: TOPICWISE QUESTIONS

TOPIC 1 : Animal Husbandry

Management of Farms and Farm Animals, Dairy Farm Management and Poultry Farm Management

1. Animal husbandry deals with

(A)The care and breeding of livestock like cows, buffaloes, pigs, horses, cattle, sheep, camels, goats, etc., that are useful to humans.

(B)Poultry farming

(C)Fisheries

(D) All of the above

2. Fisheries include rearing, catching and selling of

(A)Fish

(B)Shell-fish

(C)Crustaceans (prawns, crabs)

(D) All of the above

3. The management of animals for milk and its products for human consumption is called

(A)Fisheries

(B)Apiculture

(C)Sericulture

(D) Dairying

4. Bee-keeping is called

(A) Apiculture

(D)Sericulture

(C)Silviculture

(D)Pisciculture

5. Most common species of honey bee is

(A)*Apis indica*

(B)*Apis dorsata*

(C)*Apis mellifera*

(D)*Apis florae*

6. The following figure shows the improved breed of cattle and chickens where

(a) (b)

(A)a—Jersey, b—Rhode Island

(B)a—Leghorn, b—Jersey

(C)a—Rhode, Island, b—Leghorn

(D)a—Jersey, b—Leghorn

7. Biological principles as applied to animal husbandry and food production. Which of the following technique is going to play role in further enhancing food production?

(A)Tissue culture technique

(B)Embryo transfer technique

(C) Both A and B

(D)None of the above

8. Contribution to the world farm produce by India and China is

(A)25% (B)50%

(C)10% (D)70%

9. What are the strategies for enhancement in food production?

(i)Animal husbandry

(ii)Plant breeding

(iii)Embryo transfer technology

(iv)Tissue culture techniques

(A)i, ii and iii are true (B)Only iii is incorrect

(C) All are correct (D)i and iii are correct

10. Hallikar, a draught breed of cattle occurs in

(A)A.P. (B)M.P

(C) Karnataka (D)Gujarat.

11. Who initiated collaboration with Norman Borlang which culminated in green revolution in India?

(A)Steward

(B)Dr Panchanan Maheswari

(C)M.S. Swaminathan

(D)Ram Deo Misra

12. Norman Borlang is associated with

(A)White revolution **(B)**Green revolution

(C)Blue revolution (D)Yellow revolution

13. Super-ovulation and embryo transplantation are meant for improving

(A)Human race **(B)**Livestock

(C)Poultry (D)Plants

14. Ranikhet disease is connected with

(A)Honey Bee **(B)**Hens

(C)Fishes (D)Pigs

15. The young chicken raised specifically for meat are called

(A) Broilers (B)Cockerels

(C)Pullets (D)Hen

TOPIC 2: Animal Breeding

Bee-keeping and Fisheries

16. What approaches have to be applied to achieve improvement in quality and productivity of animals?

(A)Conventional practices

(B)Artificial insemination

(C)MOET

(D) All of the above

17. MOET stands for

(A)Multiple Ovulation Egg Transfer Technology

(B) Multiple Ova Embryo Transfer Technology

(C)Multiple Ovulation Embryo Tracer Technology

(D) Multiple Ovulation Embryo Transfer Technology

18. Which is not true of inbreeding?

(A)It causes inbreeding depression after a few generations.

(B) It always increases productivity.

(C)It is used to produce a pure line.

(D)It leads to homozygosity.

19. '*Hisardale*' is a breed of sheep developed by crossing

(A) Bikaneri ewes and marino rams

(B)Marino ewes and bikaneri rams

(C)Deccani ewes and bikaneri rams

(D)Marino ewes and apennine rams

20. In which method of animal breeding, males and females of different species are mated?

(A)Cross breeding

(B)Outbreeding

(C)Out crossing

(D) Interspecific hybrdisation

21. Mating of two varieties of cattle breed which have no common ancestors on either side of their pedigree for 4-6 generations is an example of

(A)Inbreeding

(B)Cross breeding

(C) Out crossing

(D)Interspecific hybridization

22. MOET is a programme that is used to increase

(A)Biomass **(B)**Herd size

(C)Yield (D)Disease resistance

23. *Hiosaradale* have been developed by

(A)Out-crossing

(B)Inter specific hybridization

(C) Cross breeding

(D)Intra specific hybridization

24. Fill in the blanks:

1.Multiple ovulation embryo transfer technology is for ….a….. improvememt

2.In MOET, cow is administered hormone with …..b….. like activity to induce follicular maturation and super ovulation

3.Instead of one egg per cycle …..c….. eggs are produced through it.

4.The fertilized eggs at ……d……. cell stages are recovered non-surgically and transferred to surrogate mother.

(A)a—breed, b—LH, c—6 to 8 d—8 to 16

(B)a—herd, b—FSH, c—8 to 16, d—16 to 32

(C)a—herd, b—FSH, c—6 to 8, d—8 to 16

(D)a—herd, b—FSH, c—6 to 8, d—8 to 32

25. Which product of apiculture is used in cosmetics and polishes?

(A)Royal jelly **(B)**Wax

(C)Honey (D)Both A and B

26. Inbreeding depression is overcome by employing

(A) Out-crossing

(B)Cross-breeding

(C)Inter specific hybridization

(D)Infra specific hybridization

27. Which technique is used to overcome several problems of normal matings?

(A)MOET

(B) Artificial insemination

(C)Interspecific hybridization

(D)Cross-breeding

28. Select the marine edible fishes from the following:

(i)Sardines (ii)Common carp

(iii)*Rohu* (iv)*Hilsa*

(v)Pomfrets (vi)Mackerel

(vii)*catla*

(A)i, ii, iii, v and vi

(B)ii, iii and vii

(C)ii, iii, iv, vi and vii

(D)i, iv, v and vi

29. Shell-fish is the member of which taxa

(A) Mollusca

(B)Crustacea

(C)Fishes

(D)Insecta

30. World livestock population present in India and China is about

(A)25%

(B)70%

(C)50%

(D)75%

31. Artifical insemination means

(A)Introduction of sperms of a healthy donor directly into ovary

(B)Transfer of sperms of a healthy donor to a test tube containing ova

(C)Transfer of sperms of husband to a test tube containing ova

(D) Artificial introduction of sperms of a healthy donor into vagina

32. Which are the important components of poultry farm management?

(i)Selection of disease free and suitable breeds

(ii)Proper and safe farm conditions

(iii)Proper feed and water

(iv)Hygiene and health care

(A)ii, iii, iv

(B)i, ii, iv

(C)i, iii, iv

(D)i, ii, iii, iv

33. Animal breeding is an important aspect of animal husbandry. Aims of animal breeding are

(A)Increasing the yield of animals

(B)Improving the desirable quality of the produce.

(C)To maintain disease free condition

(D) Both A and B

34. A group of animals which are related by descent and share many similarities are referred to as

(A)Species (B)Variety

(C) Breed (D)Race

35. Which technique is used for the herd improvement?

(A)MOET

(B)Artificial insemination

(C)Interspecific hybridization

(D)Controlled breeding experiments

36. In which male and female animals of two different related species are mated?

(A)Inbreeding

(B)Out-crossing

(C)Cross-breeding

(D) Interspecific hybridization

37. Read the following statements.

(i)Mule is developed by interspecific hybridization

(ii)Groups of bees is called 'swarms'

(iii)For the herd-improvement cross-breeding is employed

(iv)Bees are the pollinators of apple, *Brassica*, pear and sunflower

(v)In MOET, fertilized egg at 6-8 celled stage is recovered non-surgically

(A)i, ii, iii, iv are true (B)iii, iv, v are false

(C)i, ii, iv are true (D)i, ii, iii and v are true

38. MOET (multiple ovulation embryo transfer) is method of

(A)Fish cultivation

(B) Hybrdisation of cattle

(C)Birth control

(D)Cloning of sheep

39. Which amongst the following is used in raising supermilk cows?

(A)Artificial insemination with pedigree bull

(B)Embryo transplantation

(C)Superovulation of high yielding cow

(D) All the above

40. Fish introduced in India by foreigners is

(A)*Labeo rohita* (B)*Mystus singhala*

(C)*Pomfret* (D)*Clarius batrachus*

41. Pisciculture is rearing and product of

(A) Fishes (B)Birds

(C)Reptiles (D)Wool yielding animals

42. Identify the edible fresh water teleost.

(A)*Catla catla* (B)*Hilsa hilsa*

(C)Rays and skates (D)Sharkes

43. Bull semen is stored for artificial insemination in

(A)Ice (B)Liquid carbon dioxide

(C)Liquid oxygen **(D)**Liquid nitrogen

44. Which one is not a marine fish?

(A)Pomfret (B)Sardine

(C) Rohu (D)Mackerel

45. Which is the best breeding method for animals that are below average is production?

(A)Interspecific hybridization

(B)Cross breeding

(C)Out breeding

(D) Out crossing

46. Which statement about breeding is wrong?

(A)Continued inbreeding reduces fertility and productivity.

(B) By inbreeding pure lines cannot be evolved.

(C)Cross breeding allows desirable, qualities of two different breeds to be combined.

(D)Inbreeding expeses harmful recessive genes that are eliminated by selection.

TOPIC 3: Plant Breeding

What is Plant Breeding?. Plant Breeding for Disease Resistance, Plant Breeding for Developing Resistance to Insect Pests and Plant Breeding for Improved Food Quality

47. In plant breeding progreammes, the entire collection of plants seeds having all the diverse alleles of all genes in a given crop is called

(A) Germplasm collection

(B)Selection of superior recombinants

(C)Cross hybridization among the selected parents

(D)Evaluation and selection of parents

48. Plants can be made disease resistant through

(A)Colchicine treatment

(B)X-ray treatment

(C) Breeding with wild relatives

(D)Hormone treatment

49. Emasculation of female plant having bisexual flowers is earned out in hybridisation programme with the help of forceps by removing

(A)Style before dehiscence of anthers

(B)Style after dehiscence of anthers

(C) Anthers before their dehiscence

(D)Anthers after their dehiscence

50. Identify the correct pair of combinations

I.*Parbhani Kranti*—Resistance to Virus—Bhindi

II.*Pusa Gaurav*—Resistance to aphids—Mustard

III.*Pusa Sadabahar*—Resistance to fruit borer—Cow Pea

IV.*Pusa Shubhra*—Resistance to white rust—Cauliflower

(A)II, III (B)II, IV

(C)I, II (D)I, III

51. *Prabham Kranti*, a variety of bhindi (lady's finger), is resistant to

(A)Bacterial blight **(B)**Yellow mosaic virus

(C)Black rot (D)Leaf curl

52. Artifical hybridisation is the transfer of pollen grains to the stigma from

(A)A flower with desired trait

(B)The same flower

(C)Any flower

(D)None of the above

53. Which of the following shows the correct sequence of steps involved in breeding a new genetic variety of a crop?

a.Selection and testing of superior recombinants

b.Germplasm collection

c.Cross hybridisation among the selected parents

d.Evaluation and selection

e.Testing, release and commercialization of new cultivars

(A)b, d, c, a and e

(B)a, b, d, c and e

(C)c, d, a, b and e

(D)b, c, a, d and e

54. Semidward wheat which was instrumental in increasing wheat production was developed by

(A)Alexander von Humboldt

(B)Paul Ehrlich

(C)Dr. Kurien

(D) Norman E. Borlang

55. Internal Centre for Wheat and Maize Improvements is situated at

(A)Philippines

(B)New Delhi

(C)Switzerland

(D) Mexico

56. IRRI stands for the

(A)Indian Rice Research Institute

(B)Indian Radiation Research Institute

(C)International Rice Research Institute

(D) International Rice Research Institute

57. IRRI is situated at

(A) Philippines

(B)New Delhi

(C)Switzerland

(D)Mexico

58. Full form of IARI is

(A)Indian Apple Research Institute

(B)International Agricultural Research Institute

(C)International Advance Research Institute

(D) Indian Agricultural Research Institute

59. IARI is situated at

(A)Lucknow **(B)**Tolerance

(C)Sensitivity (D)Resistance

60. The ability of hose plant to prevent the pathogen from causing disease which is determined by genetic constitution of the host plant, is called

(A)Breeding (B)Tolerance

(C)Sensitivity **(D)**Resistance

61. Match the columns I and II, choose the correct combination from the options given.

Column I		**Column II**
a.*Brassica*	**1.**	*Pusa Sawani*
b.Cauliflower	**2.**	*Pusa Sadabahar*
c.Chilli	3.	*Pusa Shubhra*
d.Okra	4.	*Pusa Swarnim*

(A)a—1, b—2, c—3, d—4

(B)a—3, b—4, c—2, d—1

(C)a—4, b—3, c—2, d—1

(D)a—4, b—3, c—1, d—2

62. Resistance to jassids in cotton and cereal leaf beetles in wheat is due to which of the following biochemical characteristic?

(A)Solid stem **(B)**Hairy leaves

(C)Nectarless nature (D)Both A and B

63. Biofortified rice are enriched in which of the following nutrient?

(A)Calcium **(B)**Iron

(C)Protein (D)All of the above

64. Classical plant breeding involves

(A)Hybridisation followed by natural selection

(B) Hybridisation followed artificial selection

(C)Artificial selection and domestication

(D)Mutation breeding.

65. Match columns I and II, and choose the correct combination form options given.

Column I		**Column II**
a.Bhindi	1.	*Pusa Snowball K-1*
b.Cowpea	2.	*Pusa A-4*
c.Rapseed mustard	3.	*Pusa Komal*
d.Cauliflower	4.	*Pusa Gaurav*

(A)a—2, b—3, c—1, d—4

(B)a—3, b—2, c—4, d—1

(C)a—1, b—4, c—3, d—2

(D)a—2, b—3, c—4, d—1

66. Hairy leaves in cotton provides

(A)Resistance to cotton leaf beetle

(B)Resistance to bollworms

(C) Resistance to jassids

(D)Resistance to sawfly

67. Read the following statements.

(i)About 840 million people in the world suffer from hidden hunger.

(ii)About 3 billion people suffer from micronutrient, protein and vitamin deficiencies.

(iii)About 25% population suffering from hunger and malnutrition.

(iv)SCP is the one of the alternate sources of proteins for animal and human nutrition

Select the correct statement:

(A)i, ii, iii (B)i, iii, iv

(C)i, ii, iv **(D)**ii, iii, iv

68. Match the columns I and II, and choose the correct combination from the options given./

Characteristic		**Crop**
a.Vitamin A rich	i.	Lablab
b.Vitamin C rich	ii.	Spinach
c.Fe and Ca rich	iii.	Bitter guard
d.Protein rich	iv.	Pumpkin

(A)a—iii, b—iv, c—ii, d—i

(B)a—iii, b—iv, c—i, d—ii

(C)a—iv, b—iii, c—ii, d—i

(D)a—iv, b—iii, c—i, d—ii

69. Which of the following is a consequence of hidden hunger?

(A)Reduced life span

(B)Reduced mental abilities

(C)Increased the risk of disease

(D) All of the above

70. In plant breeding for how many growing seasons, new selected lines is tested in farmer's field

(A)Five growing seasons

(B)Four growing seasons

(C)Two growing seasons

(D) Three growing seasons

71. The conventional method of breeding for disease resistance is

(A)Selection (B)Hybridisation

(C)Mutation **(D)**Both A and B

72. Root of any plant breeding programme is

(A) Genetic variability (B)Selection

(C)Mutation (D)Hybridisation

73. Which one of the following pair is incorrectly matched in respect to the "crop varieties for disease resistance"?

	Crop variety	**Resistant to**
(A)	*Pusa Sawani*	Fruit borers
(B)	*Pusa Sem 3*	Jassids and aphids
(C)	*Pusa Gaurav*	Aphids
(D)	*Pusa Sem 2*	Shoot borers

74. ”Atlas 66” is high protein contained variety of

(A)Rice (B)Sugar cane

(C) Wheat (D)Maize

75. Purposeful manipulation of plant species in order to create desired plant type that are better suited for cultivation, give better yields and disease resistant is

(A)Hybrid breeding (B)Tissue culture

(C)Biofortification **(D)**Plant breeding

76. In mung bean, resistance to yellow mosaic virus and powdery mildew were induced by

(A)Biofortification

(B)Hybrid breeding

(C) Mutation breeding

(D)Conventional breeding

77. Himgiri variety of wheat, which was developed by hybridisation and selection is mainly resistant to

(A)White rust (B)Bacterial blight

(C)Chilly mosaic virus **(D)**Leaf and stripe rust

78. Biofortified maize hybrids are improved for

(A)Protein cotent

(B)Micronutrient and mineral content

(C) Amino acid content

(D)All of the above

79. Match the columns I and II, and choose the correct combination form the options given.

Crop variety		**Resistant to**
a.Himigiri	i.	White rust
b.*Pusa Swarnim*	ii.	Hill bunt

c.*Pusa Shubhra* iii. Leaf curl

d.*Pysa/sadabagar* iv. Black rot

(A)a—ii, b—i, c—iv, d—iii

(B)a—i, b—ii, c—iii, d—iv

(C)a—ii, b—i, c—iii, d—iv

(D)a—i, b—ii, c—iv, d—iii

80. A semi-dwarf variety of Wheat is

(A) Sonalika (B)IR-8

(C)*Triticum* (D)*Saccharum*

81. Breeding crops for improved nutritional quality is referred to as

(A)Bioprospectin (B)Biomagnification

(C) Biofortification (D)Bioremediation

82. International Rice Research Institute (RRI) is located in

(A)India **(B)**Philippines

(C)Japan (D)Mexico

83. Which one of the following pair is incorrectly matched in respect to the "crop varieties for disease resistance"?

(A)Cowpea—Bacterial blight

(B)*Brassica*—White rust

(C)Wheat—Leaf and stripe rust

(D) Cauliflower—Tobacco mosaic virus and leaf curl

84. Breeding that led to the development of several high yielding varieties resistant to water stress is

(A) Hybrid breeding (B)Mutation breeding

(C)Traditional breeding (D)Rotational breeding

85. HD-1553 is the variety of

(A) Wheat (B)Rice

(C)Maize (D)Pea

86. The derivatives of IR-8 and Taichung Native I were introduced in

(A)1950 (B)1960

(C)1966 (D)1962

87. Match the columns I and II, and choose the correct combination from the options given.

Characteristic		**Crop/Variety**
(i)Protein content and quality	(a)	Maize
(ii)Vitamin content	(b)	Carrots
(iii)Micronutrient content	(c)	Spinach
(iv)Amino acid content	(d)	Atlas-66

(A)i—d, (ii) —b, (iii) —c, (iv) —a

(B)i—d, (ii) —b, (iii) —a, (iv) —c

(C) —c, (ii) —a, (iii) —b, (iv) —d

(D) —d, (ii) —b, (iii) —c, (iv) —a

Which method is useful to improve milk yield and growth rate in beef cattle?

(A) Inbreeding (B)MOET

(C)Cross breeding (D)Out crossing

88. Which method is useful to improve milk yield and growth rate in beef cattle?

(A)Inbreeding (B)MOET

(C)Cross breeding **(D)**Out crossing

89. In *Himgiri, Karan Rai, Pusa Gaurav, Pusa Sem*-2, *Pusa Snowball k-1, Pusa A-4, Pusa Komal,* how many crops are disease resistance and pest resistance respectively?

(A)3, 4 (B)4, 3

(C)2, 3 **(D)**6, 1

90. In wheat, solid stem had to resistance from

(A)Stem borers **(B)**Stem sawfly

(C)Jassids (D)Cereal leaf-beatle

91.*Sonalika* and *Kalyan Sona* are…….a……. which are introduced in…….b……

(A)a—High yielding, b—1967

(B)a—High yielding, b—1963

(C)a—High yielding and disease resistant, b—1967

(D)a—High yielding and disease resistant, b—1963

92. Which variety is resistant to the curl blight black rot disease?

(A)*Pusa Sawani* (B)*Pusa Swarnim*

(C)*Pusa Shubhra* (D)*Himgiri*

93. Which is not protein enriched crop, developed at IARI?

(A) Spinach (B)French beans

(C)Garden peas (D)Broad beans

94. Match the columns I and II, and choose the correct combination from the options given.

Column I	**Column II**	
(i)Banana	(a)	SCP
(ii)Sugarcane	(b)	Meristem culture
(iii)Pomato	(c)	Micropropagation
(iv)*Spirulma*	(d)	Somatic hybrid

(A)(i) —a, (ii) —b, (iii) —c, (iv) —d

(B)(i) —b, (ii) —a, (iii) —c, (iv) —d

(C)(i) —c, (ii) —b, (iii) —d, (iv) —a

(D)(i) —c, (ii) —b, (iii) —a, (iv) —d

95.*Pusa snowball K-4* are resistant from

(A)White rust and jassids respectively

(B)Curl blight black rot and aphids respectively

(C) Black rot and shoot borer respectively

(D)Leaf curl and fruit borer respectively

96. Which method have led to the development of several high yielding varieties of millets which are resistant to the water stress?

(A)Mutation breeding

(B)Hybrid breeding

(C) Biofortification

(D)Conventional breeding

97.'Himgiri' a variety of Wheat is resistant to

(A)White rust **(B)**Mosaic viruses

(C)Bacterial blight (D)Leaf and stripe rust

98.*Pusa Swarnim* a variety of *Brassica* resistant to

(A)Bacterial blight (B)White rust

(C)Curl and black rot **(D)**Mosaic virus

99. Species of *Saccharum* originally grown in North India was

(A)*S.officinarum* **(B)***S.barberi*

(C)*S.boulardii* (D)*S.munja*

100. Branch of biology dealing with improvement of plant variety is

(A)Eugenies **(B)**Plant breeding

(C)Agrology (D)Serendipity

101. Normal Borlaug, father of green revolution, developed new varieties of

(A)Paddy **(B)**Rice

(C)Wheat (D)Sugarcane

102. India's wheat yield revolution of 1960s was possible primarily due to

(A)Hybrid seeds

(B)Mutations resulting in plant height reduction

(C) Increased chlorophyll content

(D)Quantitative trait mutation

TOPIC 4: Single Cell Protein(SCP)

103. Which of the following can be used for cultivation of SCP (like *Spirulina)*?

(A)Straw

(B) Sewage

(C)Waste water from potato processing plants

(D)All of the above

104. Find the incorrect statements.

(A)250g of *Methylophilus methylotrophus* produce 25 x 10^3 kg of protein in a day.

(B)The shift from meat to grain diets creates more demand for cereals.

(C)250 kg cow produces 200g of protein per day.

(D)*Spirulinai* when growing on sewage also reduces environmental pollution besides producing large quantities of protein.

105. One of the alternate sources of proteins for animal and human nutrition is

(A)Single cell protein **(B)**Non-vegetarian meal

(C)Mushrooms (D)Pulses

106. Which of the following is soured of single cell protein?

(A)*Bacillus thuringiensis*

(B)*Azospirillum*

(C)*Saccharomyces cerevisiae*

(D)*Methylophilus methylotrophus*

TOPIC 5: Tissue Culture

107. During somatic hybridization in plants

(A)Somaclones are produces in large numbers

(B)Apical meristems are cultured to get virus-free plants

(C)Cell walls and middle lamella are digested before fusing the cells

(D) Crop plants with higher levels of vitamins, proteins and minerals are hybridizes.

108. In tissue culture technique the source of carbon is

(A)Glucose (B)CO_2

(C) Maltose (D)Sucrose

109. Micropropagation technique is used for the commercial scale production of

(A)Banana (B)Sugarcane

(C)Potato **(D)**All of the above

110. Inherent capacity of a cell to regenerate whole organism is called

(A) Totipotency (B)Ontogeny

(C)Phylogeny (D)Proliferation

111. In tissue culture medium, the source of phytohormones is

(A) Agar agar (B)Micronutrients

(C)Glucose (D)Coconut milk

112. Match the columns and choose the correct option.

1.Totipotency	(a)Breeding crops with higher levels of nutrients
2.Micropropagation	(b)Plant grown from hybrid protoplast
3.Somaclone	(c)Producing large number of plants through tissue culture
4.Somatic hybrid	(d)Capacity to generate a whole plant from an explants
5.Biofortification	(e)Plants genetically identical to original plant

(A)1— d, 2—c, 3—e, 4—b, 5—a

(B)1—a, 2—e, 3—b, 4—d, 5—c

(C)1—c, 2—b, 3—e, 4—d, 5—c

(D)1—d, 2—e, 3—a, 4—d, 5—c

113. Meristem culture is practiced in horticulture to get

(A) Somaclonal variations

(B)Haploid plants

(C)Virus free plants

(D)Slow growing cultures

114. Plant piece used in tissue culture is called

(A)Explant (B)Somaclone

(C) Inoculant (D)Clone

115. Androgenic haploidy makes use of cells

(A) Another cells (B)Callus cells

(C)Megaspore cells (D)Microspore cells

116. Pollen grains of a plant (2n=28) are cultured to get callus by tissue culture. What would be the number of chromosomes in the cells of callus?

(A)56 (B)28

(C)21 (D)14

117. Cellular totipotency is shown by

(A)Gymnosperm **(B)**All plant cells

(C)Only bacterial cells (D)All eukaryotic cells

118. The technique of obtaining large number plantlets through tissue culture is

(A) Micropropagation (B)Macropropagation

(C)Organ culture (D)Plantlet culture.

119. Somatic hybridization is carried out by

(A) Pollen culture (B)Cell culture

(C)Protoplast fusion (D)Halploid culture

120. Callus is

(A)Plant hormone

(B)Root formation in culture media

(C) Plant by product

(D)Undifferentiated mass of tissue

121. Along with auxin, another hormone is used in tissue culture technique. It is

(A)Gibberellin (B)Cytokinin

(C)Coumarin **(D)**Coumarin

122. In tissue culture, callus can be induced to form shoot or root by altering the ratio of

(A)Auxin to cytokinin

(B) Cytokinin to ethylene

(C)Auxin to gibberellins

(D)Gibberellin to cytokinin

123. Androgenic haploids were produced from another culture for the first time by

(A) Bateson

(B)Steward

(C)Auerbach and Stadler

(D)Guha and Maheswari

124. Plant medium used widely in preparation of culture medium is got from

(A)*Cycas revolute* (B)*Cocos micifera*

(C)*Pinus roxburghii* **(D)***Borassus flabellifera*

125. Who could grow Tomato roots successfully and develop the technique of tissue culture for the first time?

(A)Hilderbrandt **(B)**P.R.White

(C)W.H.Muir (D)F.C.Steward

126. In Tobacco callus, which one shall induce shoot differentiation in combination of auxin and cytokinin?

(A)Higher concentration of cytokinin and lower concentration of auxin

(B) Lower concentration of cytokinin and higher concentration of auxin

(C)Only cytokinin and no auxin

(D)Only auxin and no cytokinin

127. Crosses involving plants of the same varieties are

(A) Intravarietal (B)Interspecific

(C)Intervarietal (D)Intra-generic

128. Hybrid of Potato and Tomato is

(A) Tomapo (B)Pomato

(C)Potamato (D)None of the above

129. The enzymes required to obtain wall-free or naked protoplasts are

(A)Cellulase and protinase

(B) Cellulase and pectinase

(C)Cellulase and amylase

(D)Amylase and pectinase