QUESTIONS BANK

(1) Discipline: Agronomy

1 The book "Annals of Agriculture" is published by;-

a Arthur Young
b Van Helmont
c Jethro Tull
d Blackman

Correct choice: a

2 In India, first separate department of agriculture was established in;-

a 1881
b 1900
c 1801
d 1985

Correct choice: a

3 Yellow revolution is associated with;-

a Pulse production
b Milk production
c Fruit production
d Oilseeds production

Correct choice: d

4 Secondary consequences of increasing elevation, both agronomically and economically significant are _____ .

a Decreased temperature
b Decreased precipitation
c Decreased wind velocity
d Increased soil fertility

Correct choice: a

5 The net assimilation rate is express in terms of ;-

a $g\ cm^{-2}\ day^{-1}$
b $g\ g^{-1}ha^{-1}$
c $g\ g^{-1}day^{-1}$
d $g\ cm^{-2}\ ha^{-1}$

Correct choice: a

6 Which of the following crop geometry ensures uniform solar radiation availability to crop?

a Rectangular
b Random
c Square
d None of these

Correct choice: c

7 The origin place of potato is;-

a China b South America

c India d Africa

Correct choice: b

8 Conservation tillage tends to encourage _____.

a Higher microbial population b Lower number of earthworms

c Reduced soil fauna d None of these

Correct choice: a

9 Though tilth is dynamic in nature, can be measured by _____ .

a Aggregate analysis b Chemical analysis

c Biological analysis d None of these

Correct choice: a

10 Capillary movement of water is complemented by_____.

a Stem elongation b Root extension

c Leaf orientation d None of these

Correct choice: b

11 A soil absorbs about _____ of incoming solar radiation.

a 5 Percent b 10 Percent

c 15 Percent d 20 Percent

Correct choice: b

12 Nitrate levels in drinking water above _____ mg per litre are considered as a human health hazard.

a 5 b 10

c 15 d 20

Correct choice: b

13 Biogeochemical nutrient cycles have led to recognize that ____ is very important.

a Balanced fertilization b Over fertilization

c Under fertilization

d None of these

Correct choice: a

14 Wavelength longer than _____ m/μ is not visible to the eye, and are called infrared.

a 450

b 550

c 650

d 750

Correct choice: d

15 North of the equator, surface winds are known as _____ .

a Northeast trade winds

b Southeast winds

c Westerlies

d Easterlies

Correct choice: a

16 The spray drift of 2,4 D (ester form) can cause considerable damage in _____ .

a Maize

b Rice

c Sorghum

d Cotton

Correct choice: d

17 Mustard crop planted at a spacing of 50 x 20 cm will have _____ plants / ha.

a 75,000

b 1,00,000

c 1,25,000

d 1,50,000

Correct choice: b

18 The Agroclimatic zone XIII, comprising the state Gujarat represents _____ type climate.

a Arid to extremely arid

b Arid to dry sub-humid

c Semi arid

d Humid

Correct choice: b

19 The optimum temperature for better crop production is between _____ .

a $12 - 18^0$ C

b $24 - 30^0$ C

c $18 - 24^0$ C

d $30 - 35^0$ C

Correct choice: c

20 Which of the following instruments used to determining direction of wind?

a Anemometer b Anemograph

c Aerometer d Aeroscope slide

Correct choice: a

21 Which of the following weed having herbicide resistance?

a *Avena fatua* b *Phalaris minor*

c *Tridox procumbens* d *Trianthema portulocastrum*

Correct choice: a

22 Which of the following causes more wastage of herbicide by drift?

a High volume sprayer b Ultra-low volume sprayer

c Hand sprayer d Low volume sprayer

Correct choice: b

23 Which of the following pair of weeds and crops is not correctly matched?

a Striga : Sorghum b Cuscuta : Lucerne

c Typha : Sugarcane d Orobanche : Tobacco

Correct choice: c

24 Which of the following one capable of counteracting the effect of herbicide?

a Anathesia b Antidote

c Aborgines d None of these

Correct choice: b

25 Stale seed bed technique of weed control is a _____ method.

a Cultural b Mechanical

c Chemical d Biological

Correct choice: a

26 Thiocarbamates viz., EPTC, a soil- incorporated herbicide is readily absorbed by roots and coleoptile and is translocated by;-

a Only upward b Only downward

c Both of these d None of these

Correct choice: c

27 Photodecomposition plays an important role in the loss of urea herbicides from ____ soil surface.

a Moist
b Wet
c Dry
d None of these

Correct choice: c

28 _____ a.i./ha has been recommended for weed control measure in mungbean.

a Fluchloralin @ 1 kg
b 2,4 – D @ 1 litre
c Simazine @ 1 kg
d Atrazine @ 1 kg

Correct choice: a

29 Which of the followings is a indicator plant for the bioassay of Atrazine?

a Sugarcane
b Sesbania
c Sorghum
d Soybean

Correct choice: d

30 The quantity of alachlor (50%) needed for spraying 1 ha @ 0.75 kg a.i. ha^{-1}.

a 1.5 kg
b 1.25 kg
c 1.0 kg
d 1.75 kg

Correct choice: a

31 When 10 kg 2,4–D is mixed in 1000 litres water, will give concentration ____ .

a 100 ppm
b 10000 ppm
c 1000 ppm
d 100000 ppm

Correct choice: b

32 Which of the following stages of a crop are more prone to weed competition?

a Germination to seedling
b Vegetative
c Reproductive
d Maturity

Correct choice: a

33 P^F refers to;-

a Logarithm of H ion concentration
b Logarithm of free flow water
c Logarithm of soil moisture tension
d Logarithm of salt concentration

Correct choice: c

34 Which of the following is a method of indirect measurement of soil moisture?

a Neutron moisture meter
b Electron moisture meter
c Positron moisture meter
d Proton moisture meter

Correct choice: a

35 Which of the following formulae is correct?

a WR = ET +AW + INR
b WR = IR + (ER+S)
c ET = IR + INR (-S)
d IR = WR – (ER + S)

Correct choice: d

36 What will be CPE value when irrigation is scheduled at 0.8 IW/CPE with 6.0 cm depth of irrigation water?

a 7.5 cm
b 75 mm
c 750 cm
d Both a & b

Correct choice: d

37 Sugarcane crop required maximum water at;-

a Germination stage
b Grand growth stage
c Maturity stage
d All of these

Correct choice: b

38 Which of the following is not a component of the moisture potential in soils?

a Matric potential
b Gravity potential
c Turger potential
d Osmotic potential

Correct choice: c

39 Major irrigation project covers an area of _____ .

a 1000 ha
b > 10000 ha
c 5000 ha
d None of these

Correct choice: b

40 SAR and RSC values for normal water should be _____.

a > 10 and < 2.5 b <10 and > 2.5

c < 10 and <2.5 d None of these

Correct choice: c

41 The C/N ratio in the organic matter of furrow slice (upper 15 cm) of arable soils commonly ranges from _____ .

a 3:1 to 4:1 b 6:1 to 7:1

c 18:1 to 19:1 d 8:1 to 15:1

Correct choice: d

42 Which of the following rotations is likely to leave soil richer in organic matter?

a Continuous sorghum b Continuous maize

c Continuous oats d Maize – Oats - Clovers

Correct choice: d

43 The maximum phosphorus availability in most of the soils is in the pH range;-

a 4.0 to 4.5 b 5.0 to 5.5

c 6.0 to 6.5 d 7.0 to 7.5

Correct choice: c

44 The deficiency symptoms are first observed on apical buds in case of ;-

a Zn deficiency b Mo deficiency

c N deficiency d B deficiency

Correct choice: d

45 The law of diminishing return was proposed by _____ .

a Mitscherlich b Wilcox

c Black man d Van Liebig

Correct choice: a

46 Which of the following plant species produced nodules on its stem?

a *Sesbania aculeata* b *Sesbania rostrata*

c *Crotolaria juncea* d *Sesbania acuminata*

Correct choice: b

47 The quantity of DAP and urea required to fertilized the crop @ 120 – 60 kg N P_2O_5 will be;-

a 130 kg DAP and 210 kg Urea
b 130 kg DAP and 260 kg Urea
c 210 kg DAP and 130 kg Urea
d 260 kg DAP and 130 kg Urea

Correct choice: a

48 VAM belongs to the group of;-

a Bacteria
b Fungi
c Algae
d Actinomycetes

Correct choice: b

49 DRIS approach for recommending fertilizer schedule is based on ____ analysis.

a Soil sample
b Water sample
c Plant sample
d None of these

Correct choice: c

50 Which of the following crops are susceptible to potassium chloride application?

a Rice and wheat
b Sugarcane
c Tea and coffee
d Tobacco and potato

Correct choice: d

51 Who is the first scientist attempted to classify the climate?

a Koppen
b Decandole
c Troll
d Hargreaves

Correct choice: b

52 PMA and atrazine at low concentration act as a _____ type of antitranspirants.

a Reflectant
b Film forming
c Stomatal closing
d Growth retardant

Correct choice: c

53 Which of the following one is more dangerous situation in dryland condition?

a Early withdrawal of rainfall
b Long dry spell
c Late onset of rainfall
d None of these

Correct choice: a

54 Areas receiving average annual rain fall > 1150 mm are categories as _____ .

a Dry farming
b Dry land farming
c Dry land agriculture
d Rainfed farming

Correct choice: d

55 In flat topography land _____ type of ponds are highly suitable.

a Excavated
b Excavated cum embankment
c Embankment
d None of these

Correct choice: a

56 Few showers of rain during December and January are beneficial to the rabi crop because they;-

a Cause fall in temperature
b Make the plant strong
c Protect the crops from frost
d Ensure moisture for seed germination

Correct choice: c

57 Which of the following crops is more tolerant against draught?

a Cowpea
b Green gram
c Blackgram
d Pigeon pea

Correct choice: a

58 Photothermal unit is related to

a Average monthly temperature
b Day degrees
c Refelcted solar radiation
d Daily sunshine hours

Correct choice: b

59 Long range weather forecast will help in planning of ;-

a Irrigation
b Land preparation
c Cropping pattern
d Pesticide application

Correct choice: c

60 Pyranometer is used to measure;-

a Light duration b Solar radiation

c Evaporation rate d Wind speed

Correct choice: b

61 In a waterlogged soil the concentration of _____ is high.

a Ethane b Methane

c Carbon dioxide d Carbon monoxide

Correct choice: b

62 Ammonia present in the soil can be lost in significant quantities from _____ .

a Acid soils b Alkaline soils

c Both of these d None of these

Correct choice: b

63 Barley, rape and cotton are _____ salt tolerant.

a High b Low

c Medium d None of these

Correct choice: a

64 The choice of chemical amendments may be influenced by the _____ required for reaction in soil.

a Cost b Quantity

c Quality d Time

Correct choice: d

65 Gypsum, an amendment applied to alkali soils belongs to _____ type.

a Acid former b Low solubility

c Soluble Ca-salt d None of these

Correct choice: c

66 Total area under salt affected soil in India is approximately;-

a 7.0 M ha b 1.0 M ha

c 14.0 M ha d 65 M ha

Correct choice: a

67 Drip irrigation is moist suitable for ;-

a Acid soil
b Alkaline soil
c Saline soil
d All the above

Correct choice: c

68 Ridge sowing is recommended on salt affected soil, which is the safest site for seed sowing?

a Crown of the ridge
b Mid way on slope of ridge
c Bottom of ridge
d All of these

Correct choice: b

69 According to USDA classification, the soil is categories as moderately alkaline when ESP value is _____ .

a 25 - 30
b 30 - 50
c 15 - 25
d > 50

Correct choice: a

70 Poor soil physical properties of sodic soil associated with;-

a High concentration of Ex. K^+
b High concentration of Ex. Na^+
c High concentration of Ex.Ca^{++}
d High pH

Correct choice: b

71 The flour corn is also known as _____ .

a *Zea mays* amylacea
b *Zea mays* indurate
c *Zea mays* everta
d *Zea mays* tunicata

Correct choice: a

72 Hybrid rice for commercial production was first evolved in;-

a India
b China
c Japan
d USA

Correct choice: b

73 The optimum temperature range for sowing of wheat crop is;-

a 10 to 15 ^{0}C
b 15 to 20 ^{0}C
c 20 to 25 ^{0}C
d 25 to 30 ^{0}C

Correct choice: c

74 The optimum plant population of sorghum can be obtained by using seed rate;-

a 9 to 10 kg/ha
b 12 to 15 kg/ha
c 15 to 18 kg/ha
d 18 to 20 kg/ha

Correct choice: b

75 Which one of followings is incorrect pair?

a Wheat : Picking
b Jute : Retting
c Groundnut : Pegging
d Maize : Tasselling

Correct choice: a

76 All the grain legumes have a high rate of respiration because of;-

a Carbon mechanism
b More vegetative growth
c Indeterminate
d Pod position

Correct choice: a

77 Interculture operation in groundnut crop should be avoided at;-

a Flowering stage
b Seedling stage
c Pegging stage
d Branching

Correct choice: c

78 Castor belongs to the family;-

a Euphorbiaceae
b Leguminosae
c Cruciferae
d Compositae

Correct choice: a

79 Adsali sugarcane crop planted during the months;-

a February – May
b December - January
c January - April
d July – August

Correct choice: d

80 Chipson is a variety of;-

a Tapioca
b Potato
c Elephant foot
d Sweet potato

Correct choice: b

81 To study two factors with different level of precision _____ design is used.

a Completely randomized design b Latin square design

c Split plot design d Factorial RBD

Correct choice: c

82 When experimental material is limited and homogenous_____ design is used.

a Latin square design b Split plot design

c Strip plot design d Completely randomized design

Correct choice: d

83 The ANOVA table of _____ design consist three error variance.

a Latin square design b Strip plot design

c Factorial RBD d Completely randomized design

Correct choice: b

84 The optimum number of treatments studied in latin square design is _____ .

a 2 - 4 b 15 - 20

c 5 - 12 d > 20

Correct choice: c

85 When the calculated F is greater than table F value at 5% only, the differences in treatments is consider _____.

a Significant b Highly significant

c Non significant d Both a and b

Correct choice: a

86 With increasing number of error degree of freedom, table F value follow _____ trend.

a Initially decreased then increased b Gradually decreased

c Initially increased then decreased d Gradually increased

Correct choice: b

87 In a split plot design the main plot treatments are studied with _____ precision

compared to sub plot treatments.

a Less
b Equal
c More
d None of these

Correct choice: a

88 The treatments arrange in descending order shows C B A D E , bar diagram, which of the following is correct?

a A B & C are equally good
b D is significantly better than E
c All are significantly differed
d Both a and b

Correct choice: d

89 Which of the following is not considered as basic principle of field experimental design?

a Treatments
b Replications
c Randomization
d Local control

Correct choice: a

90 In a split plot design, 5 levels of main plot and 4 levels of sub plot treatments studied with 3 replications. What will be the d.f. for error b source?

a 8
b 12
c 30
d 59

Correct choice: c

91 According to USDA classification, the land belongs to class VI & VII are suitable for;-

a Multiple cropping system
b Timber cum fiber farming
c Horti – pastural system
d Recreation and wildlife

Correct choice: b

92 According to National Remote Sensing Agency, culturable waste lands in India occupy an area of approx. _____.

a 75 M ha
b 140 M ha
c 39 M ha
d 100 M ha

Correct choice: c

93 Which of the following Alternate Land Use Systems not suitable on cultivable

waste and marginal lands;-

a Tree farming
b Pasture management
c Timber and fiber system
d Multiple cropping system

Correct choice: d

94 What does 'jhuming'refers to;-

a Traditional method of cultivation in hilly area
b A type of farm machine
c A type of fertilizer
d A type of improved seed

Correct choice: a

95 A cropping system where the land is hands over the succeeding crop before the harvest of standing crop is termed as;-

a Ratoon cropping
b Relay cropping
c Sequence cropping
d Intercropping

Correct choice: b

96 Agriculture growth is very soon likely to hampered by scarcity of;-

a Man made resources
b International cooperation
c Natural resource
d Local coordination

Correct choice: c

97 The nature farming was developed in the country;-

a India
b Australia
c USA
d Japan

Correct choice: d

98 The heavy metals from the industrial effluents are removed by;-

a *Trichoderma*
b *Aspergillus*
c *Aureobasidium*
d All the above

Correct choice: a

99 Which of the following species can be suggested on saline soil?

a *Sesbania aculeata*
b *Sesbania rostrata*

c *Haloxylon salicornium* d *Sesbania acuminata*

Correct choice: c

100 The most dominant aquatic weed *Eichhornia crassipes* is controlled by;-

a *Neochetina bruchi* b *Zygogramma bicolorata*

c *Telenomia scrupulosa* d None of these

Correct choice: a

101 The rice inflorescence is called

a Cob b Panicle

c Ear d Arrow

Correct choice: b

102 India has the largest acreage and production of

a Wheat b Rice

c Maize d Bajra

Correct choice: b

103 The origin of soybean is

a Brazil b China

c Mexico d Peru

Correct choice: b

104 Bunch type of variety of groundnut is

a Type-28 b GG. 20

c GG. 2 d M-13

Correct choice: c

105 'Pusa Bold' is a variety of

a Rice b Wheat

c Mustard d Redgram

Correct choice: c

106 The origin of castor is

a Europe
b Ethiopia
c India
d China

Correct choice: b

107 HCN toxicity is related to

a Pearlmillet
b Sorghum
c Lathyrus
d Maize

Correct choice: b

108 In rice 'Dapog seedlings' are ready for transplanting b/n

a 6-10 days
b 11-14 days
c 15-19 days
d 20-24 days

Correct choice: d

109 For the first time, hybrid var. in cotton was evolved in

a Japan
b China
c India
d USA

Correct choice: c

110 'Rainbow revolution' refers to

a Increase in foodgrain production
b Overall development of agril. sector
c Productive performance of agri. over time
d None of the above

Correct choice: b

111 The main objective of growing 'catch crop' is to

a Add more residue to the soil
b Suppress weeds
c Prevent cracking of soil
d Get an additional income without further investment

Correct choice: d

112 The N fertilizer use efficiency in rice can be increased by using

a S coated urea
b Urea Super Granules

c BGA

d Both a & b

Correct choice: d

113 Which is C_4 plant

a Sugarcane

b Wheat

c Sugarbeet

d Bajra

Correct choice: a

114 The number crops grown per annum on a given area of land times 100 is called

a Cropping intensity

b Cropping index

c Cropping density

d None of above

Correct choice: b

115 The major gas responsible for green house effect is

a CO_2

b Methane

c O_2

d Water vapour

Correct choice: a

116 The development stage of a plant after which no further increase in dry matter occurs in the economic part is known as

a Harvest maturity

b Both a & b

c Physiological maturity

d None

Correct choice: c

117 The instrument used for measuring depth of water table is

a Lysimeter

b Odometer

c Piezometer

d Manometer

Correct choice: c

118 'Rainy day' refers to

a Rainfall of 2.5 mm or more in 24 hrs.

b Rainfall of 3.5 mm or more in 24 hrs.

c Rainfall of 3.0 mm or more in 24 hrs.

d Rainfall of 4.0 mm or more in 24 hrs.

Correct choice: a

119 Weed that has become an integral part of a crop eco-system is called

a Noxious weed
b Alien weed
c Satellite weed
d Objectionable weed

Correct choice: c

120 Removal of weeds by cutting off below the soil surface is called

a Hoeing
b Mowing
c Chaining
d Spudding

Correct choice: d

121 The quantity of water (g) necessary for a plant to produce 1 kg of dry matter is called

a Transpiration coefficient
b Transpiration rate
c Transpiration rate
d None

Correct choice: a

122 The inflorescence of wheat is called

a Panicle
b Spike
c Head
d Cob

Correct choice: b

123 The origin of maize is

a Tropical America
b Asia
c China
d Africa

Correct choice: a

124 Cotton is susceptible to

a 2,4-D
b Basalin
c Diuron
d Dicryl

Correct choice: a

125 'Indian Journal of Agronomy' is published by

a ICAR
b IARI
c ISA
d NAAS

Correct choice: c

126 The rice variety called 'miracle rice' is

a IR-20 b IR-8

c Jaya d Bala

Correct choice: b

127 The total number of agro-ecological zones in India are

a 15 b 21

c 9 d 20

Correct choice: d

128 In dry lands, the competition is severe for

a Water b Nutrients

c Both a & b d None

Correct choice: a

129 Which of the following is a contact selective herbicide?

a 2,4-D b 2,4-DB

c Propanil d Butachlor

Correct choice: c

130 Express the concentration of solution in ppm if 2 kg of 2,4-D is mixed with 1000 lit of water.

a 20,000 b 2000

c 200 d 20

Correct choice: b

131 The consumptive use of water is equal to

a PET b ET

c ET + Mw d None

Correct choice: c

132 The raising of animals along with crop production is

a Mixed cropping b Mixed farming

c Intercropping

d Relay cropping

Correct choice: b

133 The nursery area required for providing seedlings for transplanting 1 ha rice field is

a 1/10 ha

b 1/50 ha

c 1/20 ha

d 1/30 ha

Correct choice: a

134 The sugar content / recovery is more in the cane produced in

a Northern India

b Peninsular India

c None

d Southern India

Correct choice: d

135 The experimental design which provides maximum degree of freedom for error is

a Latin Square

b Split Plot

c RBD

d CRD

Correct choice: d

136 Organic farming excludes the application of

a Manures

b Fertilizers

c Irrigation

d Bio-fertilizers

Correct choice: b

137 The water content between field capacity and PWP is called

a Capillary water

b Biological water

c Unavailable water

d Available water

Correct choice: d

138 Which is accumulated in the leaves of water stressed plants

a GA

b Auxin

c ABA

d Cytokinin

Correct choice: c

139 Soybean is _____ plant

a Long day b Short day

c Intermediate day length d Day neutral

Correct choice: b

140 Which crop has the maximum yield potential in the world

a Wheat b Chickpea

c **Maize** d Rice

Correct choice: c

141 Rice can survive in an aquatic environment

a It is tolerant to water b It can transport O_2 from the leaves to the roots

c It is aquatic plant d All

Correct choice: b

142 The inflorescence of sugarcane is

a Panicle b Spike

c Cob d Arrow

Correct choice: d

143 When fertility gradient in one direction, the statistical design to be used

a CRD b RBD

c SPD d LSD

Correct choice: b

144 Split application of fertilizers is useful under

a Sandy soil b Loamy soil

c Clayey soil d All

Correct choice: a

145 The oil and protein content of groundnut are

a 45 & 26 % b 20 & 50 %

c 35 & 45 % d 52 & 20

Correct choice: a

146 The ICAR was established in

a 1930 b 1936

c 1929 d 1935

Correct choice: c

147 Groundnut is a

a Modified stem b Storage root

c Modified storage leaf d Fruit

Correct choice: a

148 The adsali sugarcane is planted in

a July b Feb –March

c October d None

Correct choice: a

149 The best soil structure for agricultural purpose is

a Platy b Spheroidal

c Blocky d Prismatic

Correct choice: b

150 Soil pH is measure of

a Active acidity b Potential acidity

c Total acidity d All

Correct choice: a

(2)Question Bank of PLANT PATHOLOGY

Q.1 Select appropriate word/s from multiple choices. Answers

1. The sub division ends with (D)

(A) Mycetes (B) ales (C) mycetidae (D) mycotina

2. Acervuli formed in order (C)

(A) Moniliales (B) Mycelia sterile (C) Melanconiales (D) Sphaeropsidales

3. Fungal pathogen cause vascular wilt is survive in soil in the form of (B)

(A) Oospore (B)Chlamydospore (C) Sclerotia (D) Conidia

4. Mottle leaf of citrus is due to deficiency of (A)

(A) Zinc (B) Iron (C) Boron (D) Calcium

5. Ascus normally contains definite number of ascospores which is (C)

(A) Four (B)Six (C) Eight (D) Two

6. Loose smut of wheat can be controlled by seed treatment with (A)

(A) Vitavax (B) Agallol (C) Thiram (D) Captan

7. Emisan is a (B)

(A) Copper fungicide (B)Organomercurial (C) Sulphur fungicide (D) None of above

8. Indian Phytopathological Society was started by (A)

(A) B.B.Mundkur (B)K.C.Mehta (C) J.F.dastur (D) S.L.Ajrekar

9. The abnormal increase in the size of plant organ is known as (C)

(A)Hyperplasia (B)Hypertrophy (C)Both A & B (D) Atrophy

10. The term necrosis indicate (A)

(A)Death of cell (B)Curling (C) Blightening (D)Atrophy

11. Hyphal structures sent in to the host cell by different fungi to absorb the nutrients are known as (C)

(A)Appressoria (B) Rhizomorph(C)Haustoria (D)Sclerotia

12. Systemic infection of *Albugo candida* in crucifers results in to (D)

(A)Rotting (B) Gummosis(C)Blight (D)Hypertrophy

13. Fungicides which are absorbed in to the system of the plant and move to the remote site of infection are known as (C)

(A) Systematic (B) Fungistatic (C) Systemic (D) Dressers

14. Which pathogen caused heavy losses to wine industry in France due to its epidemics in 1875 (C)

(A)*Phytophthora infestans* (B) *Helminthosporium oryzae*

(C) *Plasmopara viticola* (D) *Uncinula necator*

15. Sclerotia of ergot can be removed from the seed by floating them on (A)

(A)Salt solution (B) Glycerol(C)Mustard oil (D)Kerosine

16. Mycoplasma like organism as plant pathogen for the first time in 1967 by (B)

(A)Bawden (B) Doi *et al*.(C) Smith (D) Ivanowski

17. The discovery of _____ mosaic by Mayer in 1886 was the beginning of studies on viruses as incitants of diseases in plants. (D)

(A) Tomato(B)Mungbean (C)Soybean (D)Tobacco

18. Dr.K.C.Mehta made an outstanding contribution to Plant Pathology by discovering the disease cycle in India (A)

(A) Cereal rust(B)Smuts (C)Wilts (D)Blights

19. Paddy blast is effectively controlled by spraying of (A)

(A) Edifenphos(B)Chlorothalonil (C) Mancozeb(D)Metalaxyl

20. Solar energy treatment of wheat seed is recommended for the control of (B)

(A)Karnal bunt (B)Loose smut (C) Hill bunt(D) Earcockle

21. Generally powdery mildew fungi produced sexual fruiting body is known as (C)

(A)Apothecium (B)Perithecium (C)Clestothecium (D)Pseudothecium

22. Which of the following rust is the earliest to appear on wheat in India (C)

(A) Black rust(B) Yellow rust(C)Brown rust (D)None of above

23. Coenocytic mycelium is observed in the (B)

(A) Higher fungi (B) Lower fungi (C)Imperfect fungi (D)None of above

24. A cabbage disease which is known to be more severe in acidic soils is (A)

(A)Club root (B)yellows(C) Black rot(D) Damping off

25. Viruses which can killed the bacteria are known as (C)

(A)Virion (B) Antibodies(C)Bacteriophase (D)Viriods

26. Zoospores of Oomycetes fungi are (A)

(A) Biflagellate(B)Uniflagellate (C) Tinsel type(D)Whiplash type

27. Resting spore of rust fungi is (B)

(A)Uredospore (B)Teliospore (C)Basidiospore (D)Ascospore

28. The first scientist who in 1929 studied fungi and saw their spores (A) Anton de Bary (B) Leeuwenhoek(C)P.A.Micheli (D)Prevost (C)

29. Downy mildew disease can be effectively managed by spraying of (A)

(A)Metalaxil MZ (B)Thiophanate methyl (C)Mancozeb (D)Carbendazim

30. Alternate host of pearl millet rust is (B)

(A) Barberry(B)Brinjal (C)Chaenopodium (D)*Glycine max*

31. Yellow vein mosaic of okra is transmitted through (D)

(A) Aphid(B) Thrips(C)Mites (D)White fly

32. Root rot of castor is favoured by (B)

(A) High soil moisture (B) Low soil moisture

(C) High humidity (D) Low temperature

33. A five kingdom system of classification of living beings was suggested by (C)

(A)Linneaus (B) Persoon(C)Whittakar (D)Haeckel

34. Bud necrosis of groundnut is caused by (D)

(A)Phytoplasma (B)Viroid (C) Spiroplasma (D) Virus

35. Indian Phytopathological society was started by (A)

(A)B.B.mundkur (B) K.C.mehta(C)J.F.dastur (D)G.S.kulkarni

36. Viriods spread from cell to cell by (B)

(A)Movement protein (B) Plasmodesmata

(C)Helper virus (D) Cell division

37. Yellow vein mosaic of okra is caused by (A)

(A)Gemini virus (B)Potyvirus(C)Potexvirus (D)Comovirus

38. Express of resistance in plant disease reaction from susceptible appropriate treatment is called (B)

(A)Functional resistance (B) Induced resistance

(C)Structural resistance (D) Synthesis resistance

39. Plant quarantine method is useful only when (A)

(A) The pathogen is seed transmitted

(B) The pathogen is wind borne

(C) The pathogen is soil inhabitant

(D) The pathogen is vector transmissible

40. Green ear disease of bajara is also known as (C)

A) Bunchy top(B) Witches broom(C) Downy mildew (D)Phyllody

41. Mango malformation is common in (B)

(A)North-East India (B) North-West India

© South-East India (D) South-West India

42. Which one is a host specific toxin? (c)

(a)Tab toxin(B) Ten toxin(C) Victorin (D)Phaseotoxin

43. Association of fungi with roots of higher plants is known as (B)

(A)Lichen (B)Mycorrhiza (C) Ascolichen(D)Basidiolichane

44. Zoospores of Oomycetes fungi are (A)

(A)Biflagellate (B)Uniflagellate(Tinsel type)

© Uniflagellate(whiplash type) (D) Non motile

45. The pathogenic organisms included under family Erysiphaceae cause (B)

(A) Downy mildew(B)powdery mildew (C) white rust(D)ergot

16. Ascus normally contains definite number of ascospores which is (C)

(A)Four (B)Six (C) Eight(D)Two

47. When disease is more or less constantly present from year to year in a moderate to severe form, in a particular country or part of the earth then it is known as (D)

(A)Epidemic (B)Sporadic (C) Pandemic(D)Endemic

48. First plant disease caused by parasitic nematode was reported by (B)

(A)N.A.Cobb (B)T.Needham (C)Prevost (D)F.C.Bawden

49. Pyrimidines fungicides are used against (B)

(A) Rusts(B)Powdery mildews (C)Downy mildews (D)Smuts

50. Which of the following fungicide was discovered accidently by Millardet (D)

(A)Vitavax (B)Captan (C) Cerasan(D)Bordeaux mixture

51. Karathane is a (A)

(A) Fungicide(B)Insecticide (C)Nematicide (D)Bactericide

52. In bacterial brown rot and wilt of potato, the amount of _____ produced by pathogens is proportional to severity of symptoms. (C)

(A)Gibberellin (B)Lipids (C)Polysaccharides (D)Proteins

53. Potato leaf roll virus belongs to (B)

(A)Potexvirus group (B) Tobravirus group

(C)Leuteovirus group (D)Potyvirus group

54. Yellow vein mosaic of okra is transmitted through (D)

(A) Thrips(B)Aphids (C)Mites (D)Whitefly

55. Fusarium wilt of banana is also known as (A)

(A)Panama disease (B) Moko disease(C)Bunchy top (D)Sigatoka disease

56. Which of the following rust is the earliest to appear on wheat in India (B)

(A)Black rust (B)Brown rust (C) Yellow rust(D)White rust

57. Which of the following is an alternate host required by *Puccinia graminis tritici* to complete its life cycle (A)

(A) Berberis(B)Brinjal (C)*Horeum vulgare* (D)*Glycine max*

58. The book entitled "Plant Diseases" has been written by (B)

(A)Y.L.Nene (B)R.S.Singh (C) Rangaswami(D)V.N.Pathak

59. The most common stage of the fungus causing stem rot of paddy is (A)

(A)Sclerotia (B)Pycnidia (C) Acervulus(D)Myceloid

60. The most destructive phase of the bacterial blight of rice is known as (B)

(A) Necrosis(B) Kresek(C)Blight (D)Die back

61. Which one is a polymorphic fungus (A)

(A)Puccinia graminis tritici (B)Albugo candida

(C) Alternaria solani (D)Erysiphe polygoni

62. Local and systemic infection found in (B)

(A) Coffee rust (B)White rust in crucifers

(C)Late blight of potato (D)Early blight of tomato

63. Basidiospore of black rust are germinated on (C

(A)Mustard (B) wheat(C)barbery (D)Rice

64. Fungi are (B)

(A)Autotrophic (B)Heterotrophic (C) Phototrophic(D)None of above

65. Which one is a meiospore (A)

(A)Ascospore (B)Sporangia (C)Conidia (D)Chlamydospore

66 The highest percentage of water(>70%) present in conidia of (C)

(A)Rusts (B) Smuts(C)Powdery mildews (D)Downy mildews

67. The well proven antifungal antibiotic is (C)

(A) Penicillin(B)Streptomycin (C)Amphotercin (D)Tetramycin

68. Hemileia vastratrix is a (A)

(A)Microcyclic (B)Macrocyclic (C)Demicyclic (D)Nuctar cycle

69 Mycoparasitism is the phenomena between (B)

(A) Fungi and Bacteria (B)Fungi and Fungi

(C) Bacteria and Virus (D)Fungi and Virus

70. The term '*Phtophthora*' means (A)

(A)Plant destroyer (B) Root rot(C)Phytonlike (D)Potato rot

71. Clamp connection is found in (B)

(A) Albugo(B) Ustilago(C) Erysiphe(D)Phytophthora

72. Which one pathogenic fungal genus is polyphagus? (A)

(A) Alternaria(B) Pyricularia(C) Curvularia(D)Venturia

73. Which one is a soft rot causing fungus? (A)

(A)Chaetomium (B)Coriolus (C)Xylaria (D)Mucor

74. Rust teliospore on germination produce (C)

(A) Two basidiospore (B) Three basidiospore

(C) Four basidiospore (D)None of the above

75. Death of tissue in virus -infected plant described as (C)

(A)Mottling (B) Mosaic(C) Necrosis(D)Curling

76 Khaira disease of rice is controlled by spraying :

(a) Copper sulphate (c) Borax (d)

(b) Manganese sulphate (d) Zinc sulphate

77 The disease responsible for the great Bengal famine in 1942-43 is :

(a) Rice blast (c) Wheat rust (b)

(b) Brown spot of rice (d) Take all disease of wheat

78 'Mosaic' is the specific symptoms produced only by :

(a) Virus (c)Viroid (a)

(b) Phytoplsama (d) Fastidious vascular bacteria

79 Sooty or charcoal like powdery mass usually appearing on floral organs particularly the ovary is :

(a) Smut (c)Powderymildew (a)

(b) Bunt (d) Sooty mould

80 Only one disease cycle occurring per season in :

(a) Monocyclic diseases (c) Polyetic diseases (a)

(b) Polycyclic diseases (d) Multiple cycle diseases

81 The alternate host for pearl millet rust is :

(a) Brinjal (c) Tomato

(b) Mustard (d) Okra a

82 The fungal disease related to the discovery of gibberellins is :

(a) Rice blast (c) Rice false smut

(b) Foolish seedling disease of rice (d) Rice white tip nematode

83 The direct infection and loss of floral organs as well as seed occurs in :

(a) Karnal bunt of wheat (c) Ergot of pearl millet

(b) Smut of pearl millet (d) All above b

84 Which of the following rust is not caused by fungi ?

(a) Black rust (c)Brown rust (d)

(b) Yellow rust (d) Red rust

85 Black, yellow and brown rust are generally caused by :

(a) *Puccinia* spp. (c) *Melampsora* spp. (a)

(b) *Uromyces* spp. (d) *Phragmidium* spp.

86 A group of diseases caused by basidiomycetes are :

(a) Mildew (c) Rot

(b) Smut (d) Ergot (b)

87 The typical example of monocyclic diseases is :

(a) Loose smut of wheat (c) Sesame phyllody (a)

(b) Rice blast (d) White rust of mustard

88 Bacterial rot of wheat ears is also known as :

(a) Spike blight (c) Tundu (d)

(b) Yellow slime disease (d) All above

89 Brown rust of wheat is caused by :

(a) *Puccinia striiformis* (c) *Puccinia recondita* (c)

(b) *Puccinia graminis tritici* (d) *Ustilago tritici*

90 Loose smut of wheat is a :

(a) Soil borne disease (c) Externally seed borne disease

(b) Internally seed borne disease (d) Air borne disease (b)

91 Grassy shoot disease is caused by :

(a) Bacteria **(c) Phytoplasma**

(b) Fungi (d) Spiroplasma (c)

92 The pith of the red rot affected cane emits :

(a) Alcoholic smell (c) Rotten fish like smell (a)

(b) Fried-egg like smell (d) No smell

93 Ear showing honey dew symptoms is characteristic feature of :

(a) Green ear of bajra (c) Ergot of bajra (c)

(b) Grain smut of bajra (d) All of the above

94 Which of the following smut of sorghum is not a seed-borne disease?

(a) Grain smut (c) Long smut (b)

(b) Loose smut (d) Head smut

95 Phyllody is caused by :

(a) Bacteria (c) Virus (d)

(b) Fungi (d) Phytoplasma

96 The mode of infection in ergot of bajra is :

(a) Shoot infection (c) Local infection of blossom (c)

(b) Seedling infection (d) Systemic infection

97 Tikka disease of groundnut is caused by :

(a) *Fusarium* (c) *Colletotrichum* (d)

(b) *Verticillium* (d) *Cercospora*

98 Which of the following is a pseudo rust ?

(a) Black rust of wheat (c) Yellow rust of wheat (d)

(b) Brown rust of wheat (d) White rust of crucifers

99 The whip smut of sugarcane is caused by :

(a) *Ustilago maydis* (c) *Ustilago hordei* (b)

(b) *Ustilago scitaminea* (d) None of abobe

100 Which of the following disease of pigeonpea is caused by virus ?

(a) Sterility mosaic (c) Stem canker (a)

(b) Wilt (d) Leaf spot

101 Karnal bunt was first reported by :

(a) Mitra (c) Desai (a)

(b) Dowson (d) Butler

102 Alternate host of black stem rust of wheat in India is :

(a) *Mahonia* sp. (c) *Berberries* sp. (c)

(b) *Thalictrum* sp. (d) None of above

103 Bud-necrosis of groundnut is transmitted by :

	(a) Thrips	(c) Aphid	(a)
	(b) Whitefly	(d) All above	
104	The grain smut of sorghum is also known as :		
	(a) Covered smut	(c) Short smut	(d)
	(b) Kernel smut	(d) All above	
105	The wilt of cotton is :		
	(a) Seed borne	(c) Both a & b	(c)
	(b) Soil borne	(d) Air borne	
106	Smut disease infect the plant at :		
	(a) Seedling stage	(c) Tillering stage	(b)
	(b) Embryo stage	(d) None of above	
107	Solar heat treatment is used to control :		
	(a) Covered smut of barley	(c) Smut of bajra	(b)
	(b) Loose smut of wheat	(d) Smut of sorghum	
108	The first recognized virus disease of plants in world is :		
	(a) Tobacco mosaic	(c) Yellow vein mosaic	(a)
	(b) Cucumber mosaic	(d) None of above	
109	The annual reoccurrence of rust of wheat (black rust) in the plains is through :		
	(a) Uredospores	(c) Aeciospores	(a)
	(b) Teleutospores	(d) Basidiospores	
110	The incidence of which disease increases with increased supply of nitrogen ?		
	(a) Rice blast	(c) Potato tuber rot	(d)
	(b) Cotton wilt	(d) All above	
111	Which stage of the wheat rust fungus is considered as the perfect stage ?		
	(a) Uredial stage	(c) Pycnial stage	(b)
	(b) Telial stage	(d) None of above	

112 Sugarcane crop appears dry and on splitting the cane white and red bunds are seen with foul smell. The disease is :

(a) Red rot (c) Wilt (a)

(b) Whip smut (d) Grassy shoot

113 The most serious smut among the smuts affecting sorghum is :

(a) Grain smut (c) Long smut (a)

(b) Loose smut (d) Head smut

114 Frog-eye leaf spot disease is present in :

(a) Tobacco (c) Cotton (a)

(b) Potato (d) None of above

115 In which rust, pustules are arranged in end to end manner and forming stripes ?

(a) Yellow rust (c) Black rust (a)

(b) Orange rust (d) White rust

116 The symptoms of red rot of sugarcane mostly found on :

(a) Stem (c) Leaf (a)

(b) Root (d) Arrow

117 Leaf curl of tobacco is caused by :

(a) *Nicotiana virus* -1 (c) Phytoplasma (a)

(b) *Nicotiana virus* -10 (d) Viroid

118 *Puccinia* causes rust on :

(a) Cereals (c) Vegetables (a)

(b) Flowers (d) All above

119 Root parasite of Bajra is :

(a) *Cuscuta* (c) *Orobanche* *b*

(b) *Striga* (d) *Loranthus*

120 Pegion pea sterility mosaic disease is transmitted by (b)

(a) Aphid (c) Whitefly

(b) Eryophide mite (d) Jassid

121 Phyllody of sesamum is transmitted by (c)

(a) Adult thrips (c) Adult jassid

(b) Aphid (d) Mite

122 Khaira disease of rice is controlled by spraying :

(a) Copper sulphate (c) Borax (d)

(b) Manganese sulphate (d) Zinc sulphate

123 The disease responsible for the great Bengal famine in 1942-43 is :

(a) Rice blast (c) Wheat rust (b)

(b) Brown spot of rice (d) Take all disease of wheat

124 The whip smut of sugarcane is caused by :

(a) *Ustilago maydis* (c) *Ustilago maydis* (d)

(b) *Ustilago scitaminea* (d) *Ustilago scitaminea*

125 Partial root parasite of sorghum is :

(a) *Cuscuta* (c) *Orobanche* (b)

(b) *Striga* (d) *Loranthus*

126 Total root parasite of tobacco is

(a) *Cuscuta* (c) *Orobanche* (c)

(b) *Striga* (d) *Loranthus*

127 Mungbean yellow mosaic virus is secondary transmitted by

(a) Whitefly (c) Jassid (a)

(b) Thrips (d) Aphid

128 Root knot disease of tobacco is effective control by

(a) Carbendazim (c) Thirum (b)

(b) Carbofuran (d) Mancozeb

129 Stem rot of groundnut pathogen survives in the form of

(a) Sclerotia (c) Oospores (a)

(b) Chlamydospores (d) Conidia

130	Which insect is transmitted bud necrosis of groundnut?		
	(a) Aphid	(c) Jassid	(b)
	(b) Thrips	(d) Mite	
131	Which type of soil is most favored for root knot nematode ?		
	(a) Sandy soil	(c) Heavy black	(a)
	(b) Clay soil	(d) Calcareous soil	
132	Rhizome rot pathogen of turmeric is transmitted by		
	(a) Rhizome	(c) Air	(a)
	(b) Leaf	(d) Non of them	
133	White rust of mustard is caused by		
	(a) *Puccinia graminis*	(c) *Puccinia recondita*	(d)
	(b) *Puccinia arachidis*	(d) *Albugo candida*	

(3)Entomology question bank

Sr.No.	Questions	Answer
1.	The gladiator belongs to the insect order (a) Phasmida (b) Orthoptera (c) Grylloblattoidea (d) Mantophasmatodea	D
2	The differentiation of the body into distinct functional regions is called (a) Morphogenesis (b) Oogenesis (c) Tagmosis (d) Blastogenesis	C
3	In which type of head the mouthparts are in continuous series with the legs?	b

	(a) Hypognathous (b) Prognathous (c) Ophisthognathous (d) Paurometabolous	
4	The Johnston's organ is present on (a) Scape (b) Pedicel (c) Coxa (d) Trochanter	A
5.	In silk worm, the antennae are (a) Clavate (b) Capitate (c) Pectinate (d) Bipectinate	B
6.	Piercing and sucking mouthparts are found in (a) Mosquitoes (b) Honey bees (c) Thrips (d) Butterflies	D
7	Saltatoriallegs are found in (a) Cockroach (b) Praying mantid (c) Grasshopper (d) Mole cricket	A
8	The forewing of Coleoptera is called (a) Tegmina (b) Elytra (c) Hemelytra (d) Halteres	C
9	The larva which has no legs and is *very* poorly sclerotized is called (a) Oligopod (b) Apodous (c) Scarabaeiform (d) Polypod	B
10	Foregut is lined by (a) Intima (b) Peritrophic membrane (c) Enteric epithelium (d) Taenidia	A
11	Salivary glands are also called (a) Mandibular glands (b) Maxillary glands (c) Labial glands (d) Pharyngeal glands	C
12	A respiratory system in which 1 meso thoracic and 8 abdominal spiracles are functional is called (a) Holopneustic (b) Perineustic (c) Hemipneustic (d) Oligopneusic	b
13	The neurons which carry impulses from the central nervous system	C

	are called . (a) Sensory (b) Afferent (c) Motor (d) Interneurons	
14	The sac for storage of sperms in male insect is called (a) Spermatheca (b) Seminal vesicle (c) Median oviduct (d) Genital chamber	B
15	The amount of uric acid in excreta of insects is about (a) 10% (b) 25% (c) 40% (d) 85%	D
16	Juvenile hormone is secreted by (a) Neurosecretary cells (b) Prothoracic glands (c) Corpora allata (c) Corpora cardiaca	C
17	The complete dependence of one organism over another is called (a) Amensalism (b) Mutualism (c) Protocooperation (d) Commensalism	B
18	The theory of natural regulation of populations based on genetic feedback mechanism was proposed by (a) D. Pimentel (b) D. Chitty (c) A. Milne (d) A.I. Nicholson	A
19	Domestic quarantines were enforced ir.. India to prevent the spread of (a) Woolly apple aphid (b) Pink bollworm (c) Brown planthopper (d) San Jose scale	d
20.	The insect which entered India before the enforcement of quarantine measures is 2020 (a) Cottony cushion scale (b) Cotton whitefly (c) Guava mealy bug (d) Sugarcane pyrilla	A
21.	The Prevention of Food Adulteration Act, 1954 came into force in (a) 1954 (b) 1955 (c) 1956 (d) 1957	B
22.	The recommended trap crop for IPM of diamondback moth on cabbage is (a) Radish (b) Carrot (c) Indian mustard (d) Cotton	C

23.	The recommended trap crop for IPM of tomato fruit borer is (a) Brinjal (b) African marigold (c) Potato (d) Cucurbits	B
24.	Clipping off the top of rice seedlings containing immature stages of insects reduces the carry over of infestation of (a) Rice hispa (b) Whitebacked planthopper (c) Green leafhopper (d) Rice bug	A
25.	Sticky bands around tree trunks provide protection against (a) Citrus psylla (b) Mango mealy bug (c) Mango hopper (d) Apple root borer	B
26.	The first successful attempt to utilize biological control involved the importation of (a) Ladybird beetle (b) *Aphelinus spp.* (c) Vedalia beetle (d) *Apanteles spp.*	c
27.	The All India Coordinated Research Project on Biological Control of Crop Pests and Weeds (AICRPBC) was started in (a) 1967 (b) 1977 (c) 1980 (d) 1985	B
28.	The Project Directorate of Biological Control (PDBC) came into being in (a) 1963 (b) 1970 (c) 1983 (d) 1993	D
29.	The cassava mealy bug in Africa was successfully controlled by importation and augmentation of (a) *Cyrtorhinus lividipennis* (Reuter) (b) *Cryptolaemus montrouzieriMulsant* (c) *Epidinocarsis lopezi* (De Santis) (d) *Aphelinus mali* (Haldeman)	c
30.	San Jose scale has been successfully controlled in India by the importation of (a) *Aphelinus mali* (Haldeman) *(b) Encarsia perniciosi* (Tower)	b

	(c) *Coccinella septempunctata* Linnaeus (d) *Trichogramma chilonis* Ishii	
31.	The beetle, *Zygogramma bicolorata* Pallinter, introduced for the control of congress grass, started feeding on (a) Cauliflower (b) Mustard (c) Sunflower (d) Soybean	c
32.	A strain of *Trichogramma chilonis* Ishii has been developed in India which is resistant to (a) Endosulfan (b) Malathion (c) Carbaryl (d) Carbofuran	A
33.	The green lacewing is a parasitoid of (a) Beetles (b) Grasshoppers (c) Aphids (d) Cockroaches	C
34.	The first record of an insect disease caused by a fungal pathogen is that of (a) *Beauveria bassiana* (b) *Verticillium lecanii* (c) *Cephalosporium lecanii* (d) *Metarrhizium anisopliae*	D
35.	*Bacillus thuringiensiswas* first isolated from diseased larvae of (a) Silkworm (b) Honey bee (c) American bollworm (d) Spruce budworm	A
36.	*Bacillus papillae* causes milky disease in (a) Cockchafer beetle (b) Japanese beetle (c) Red flour beetle (d) Ber beetle	B
37.	The commercial product 'Doom' has been developed from a (a) Protozoan (b) Fungus (c) Virus (d) Bacterium	D
38.	The most successful field use of a baculovirus on global scale has been made for the control of (a) Diamondback moth (b) Cabbage caterpillar	C

	(c) Soybean caterpillar (d) Pink bollworm	
39.	The first commercial formulation of NPV was *(a)* Gypchek *(b)* Elcar *(c)* Virin- HS *(d)* Spodopterin	B
40.	The share of microbial pesticides in the total world pesticide market is (a) 1-2% (b) 5-6% (c) 8-10% (d) 12-15%	A
41.	The earliest documented case of insect resistance is against (a) Wheat stem sawfly (b) Hessian fly (c) Sorghum shoot fly (d) Screw worm fly	B
42.	Major gene resistance is also called (a) Horizontal resistance (b) Oligogenic resistance (c) Vertical resistance (d) Induced resistance	C
43.	DIMBOA is considered to be 31. resistance factor against European corn borer in *(a)* First generation *(b)* Second generation *(c)* Third generation *(d)* Fourth generation	A
44.	The number of biotypes reported in brown plant hopper is *(a)* 2 *(b)* 3 *(c)* 4 *(d) 5*	D
45.	Which was the first country to commercialize transgenic crops? *(a)* USA *(b)* China *(c)* Canada *(d)* Argentina	B
46.	The antifeedant properties of neem were first reported in India against (a) Tobacco caterpillar (b) Desert locust (c) American bollworm (d) Brown plant hopper	b
47.	The irreversible inversion of acetyl cholinesterase is caused by (a) Malathion (b) DDT (c) HCH (d) Carbaryl	A
48.	The first report of insecticide resistance in India was that of (a) Diamondback moth (b) American bollworm (c) Singhara beetle (d) Mustard aphid	C

49.	The maximum amount of pesticides in India is used on (a) Rice (b) Vegetables (c) Plantation crops (d) Cotton	D
50.	The highest consumer of pesticides per unit area is (a) USA (b) Taiwan (c) Japan (d) Korea	B
51.	Atropine sulphate is an (a) Antibiotic (b) Antifeedant (c) Antidote (d) Antipheromone	C
52.	Methyl eugenol is an attract for (a) Oriental fruitfly (b) Melon fruit fly (c) Mediterranean fruitfly (d) Paddy gall fly	A
53.	The level at which control measures should be initiated against a pest is called (a) Economic injury level (b) Economic threshold level (c) General equilibrium level (d) None of these	B
54.	White backed plant hopper belongs to the family (a) Delphacidae (b) Cicadellidae (c) Coccidae (d) Coreidae	a
55.	Rice leaf- folder belongs to the family *(a)* Noctuidae *(b)* Pyralidae *(c)* Arctiidae *(d)* Pterophoridae	B
56.	Cotton whitefly is a vector of *(a)* Tungro virus *(b)* Grassy stunt virus *(c)* Leaf curl virus *(d)* Leaf vein mosaic virus	C
57.	Diamondback moth belongs to the family *(a)* Pyralidae *(b)* Yponomeutidae *(c)* Pieridae *(d)* Noctuidae	B
58.	Red pumpkin beetle belongs to the family *(a)* Chrysomelidae *(b)* Curculionidae	A

	(c) Dermestidae *(d)* Bostrychidae	
59.	Dengue fever is transmitted by (a) *Anopheles* spp. (b) *Culex* spp. (c) *Mansonia* spp. (d) *Aedes* spp	C
60	*Amsacta moorei* (Butler) is known as (a) Red hairy caterpillar (b) Bihar hairy caterpillar (c) Gram cutworm (d) Greasy cutworm	A
61	. *Epilachna vigintioclopunctata* (Fabricius) is a pest of (a) Cucurbits (b) Tomato (c) Brinjal (d) Lady's finger	C
62.	The Indian honey bee is technically named as *(a) Apis dorsata* Fabricius *(b) Apis florea* Fabricius *(c) Apis cerana* Fabricius *(d) Apis mellifera* Linnaeus	C
63.	Who was awarded Nobel Prize for discovering the language of the honeybees? (a) Eva Crane (b) Karl von Frisch (c) S.P. Sakagami (d) P. Ruttner	B
64.	Nosema disease of the honeybee is caused by a (a) Fungus (b) Protozoan (c) Virus (d) Bacterium	B
65.	The fully ripened honey contains the highest amount of (a) Glucose (b) Fructose (c) Sucrose (d) Water	B
66.	Royal gelly is the secretion of (a) Labial glands (b) Neurosecretary cells (c) Hypopharyngeal glands (d) Mandibular glands	C
67.	The killing of pupae of silkworm in the cocoons is called (a) Mounting (b) Reeling (c) Curing (d) Stifling	D
68.	*Nosema bombycis* causes a disease in silkworms known as (a) Muscardine (b) Pebrine (c) Flacherie (d) Grasserie	B

69	. The rank of India in silk production in the world is (a) First (b) Second (c) Third (d) Fourth	B
70.	The share of Rangeeni strain of lac insect to lac production in India is (a) 10-20% (b) 30-40% (c) 50-60% (d) 80-90%	d
71.	The rank of India in lac production in the world is (a) First (b) Second (c) Third (d) Fourth	b
72.	The Indian Lac Research Institute is situated at (a) Hansi (b) Ranchi (c) Pune (d) Bangalore	A
73.	The first recipient of the World Food Prize was (a) N.E. Borlaug (b) B.P. Pal (c) R.F. Chandler (d) M.S. Swaminathan	D
74	The word 'Green revolution' was coined by (a) William Gaud (b) N.E. Borlaug (c) C. Subramaniam (d) Robert McNamara	A
75	The head quater of the World Food Prize Foundation is at (a) Rome (Italy) (b) Des Moines (USA) (c) Washington (USA) (d) Manila (Philippine	b

(4) Soil science question banks

1 **Ans** It is the relative purity or strength of the spectral colour.

C A Hue B Light C **Chroma** D Value

2 "The limiting velocity of a particle falling in fluid medium will be proportional to the square of its diameter." This low is given by:

C A Beer B Jackson C **Stoke** D Lambert

3 This enzyme is involved in the BNF.

C A Rhizobium B Azotobacter C **Nitrogenase** D Nitrosomonas

4 "Enrichment of water bodies by nutrients and consequent bloom of algal and other aquatic plants" This is the process known as:

C A Illuviation B Elluviation C **Eutrophication** D Neutralization

5 A branch of soil science which deals with the soil from the crop production point of view

D A Pedology B Soil geology C Ecology D **Edaphology**

6 In montmorillonite, most of the negative charges are developed by:

B A Dissociation of OH group B **Ionic substitution** C Ionic structure D Humus

7 Particle density is also known as:

A A **True density** B Bulk density C Aopparent density D Specific gravity

8 Total porosity is more in

B A Sandy soil B **Clayey soil** C Silty soil D Loamy sand

9 The dominant potential in saline soil is

B A Metric B **Osmotic** C Gravitational D pressure

10 The phenomenon by which hydrogen atoms act as links between water molecules is called as

B A Polarity B **Hydrogen bonding** C Surface tension D Attraction

11 The attraction of solid surface for water molecules is called as

A A **Adhesion** B Cohesion C Flocculation D Plasticity

12 The best agricultural soil structure is

A A **Crumb** B Platy C Columnar D Bloky

13 If igneous rock contains more than 65 per cent silica it is called as

A A **Acidic** B Intermediate C Basic D Ultrabasic

14 The soil having more than 30% organic matter is placed in

	C	A	Oxisols	B	Aridisols	C	**Histosols**	D	Alfisols
15		The example of 2 : 2 type silicate clay mineral is							
	A	A	**Chlorite**	B	Kaolinite	C	Montmorillonite	D	Vermiculite
16		The process of desilication is known as							
	A	A	**Laterization**	B	Podzolization	C	Salinization	D	Humification
17		The main centre of NBSS & LUP is located at							
	B	A	Palanpur	B	**Nagpur**	C	Kanpur	D	Jodhpur
18		The element N is not found in							
	C	A	Atmosphere	B	Hydrosphere	C	**Lithosphere**	D	Planets
19		The metamorphic rock formed due to action of high pressure is known as							
	A	A	**Dynamo metamorphic**	B	Thermo metamorphic	C	Hydro metamorphic	D	None of these
20		The progressive accumulation of Na^+ ion on exchange complex is called as							
	C	A	Salinization	B	Calcification	C	**Alkalization**	D	Gleization
21		The soils formed in high rainfall area are							
	A	A	**Acidic**	B	Basic	C	Alkaline	D	Saline
22		Horizon B_2 is also known as							
	A	A	**Illuvial horizon**	B	Eluvial horizon	C	Solum	D	Transition horizon
23		Hematite is converted to limonite by the process of							
	A	A	**Hydration**	B	Hydrolysis	C	Oxidation	D	Carbonation
24		Name of phosphorus supplying mineral is							
	B	A	Quartz	B	**Apatite**	C	Feldspar	D	Calcite
25		The horizon A + B are collectively called as							

	A	A	**Solum**	B	Regolith	C	Organic	D	Illuvial

26 The order of desert soil is

	B	A	Entisoils	B	**Aridisols**	C	Vertisols	D	Inceptisols

27 The best agricultural texture is

	A	A	**Loam**	B	Sand	C	Silt	D	Clay

28 The water retained by air dried soils is considered as

	B	A	Gravitational	B	**Hygroscopic**	C	Capillary	D	Free

29 Natural soil aggregates are known as

	A	A	**Peds**	B	Clods	C	Floccules	D	None of these

30 Soil pH is a measure of

	A	A	**Active acidity**	B	Reserve acidity	C	Exchange acidity	D	None of these

31 Infiltration rate is relatively higher in

	A	A	**Sandy soil**	B	Clay loam soil	C	Silty soil	D	Clayey soil

32 Widely accepted fixed value of particle density is

	B	A	1.5 g/cc	B	**2.65 g/cc**	C	2.29 g/cc	D	1.65 g/cc

33 Solution whose strength or concentration is accurately known is termed as

	C	A	Normal solution	B	Concentrate solution	C	**Standard solution**	D	solvent

34 Study of origin, classification, morphology of soil is known as

	A	A	**Pedology**	B	Edaphology	C	Soil physics	D	Physical chemistry

35 Solution which contains one gram eq. wt. of substance dissolved in one lit. of solution is known as

	B	A	Molar solution	B	**Normal solution**	C	Molal solution	D	Standard solution

36 The size of silt fraction according to USDA system is

A A **0.05-0.002 mm** B 0.02-0.002 mm C < 0.02 mm D 0.2–0.02 mm

37 The range of usefulness of tensiometer is between

C A 10-15 bar B 1-10 bar C **0.0-0.8 bar** D - 15 bar

38 An average solar radiation reaching to the earth is

D A 80 % B 70 % C 60% D **50%**

39 Maximum density of water is at

A A **4 °C** B - 4 °C C 0 °C D 10 °C

40 The water content on mass basis can be converted into volume basis by multiplying it with

C A Particle density B Surface tension C **Bulk density** D Total potential

41 Which one is considered as organic fertilizer?

B A FYM B **Urea** C Ammonium sulphate D DAP

42 The process by which ions are taken into plant roots

B A Oasis B **Absorption** C Advection D Adsorption

43 An oxidative transformation of NH_4^+ into NO_2^- is mediated by

C A Nitrobacter B Urease C **Nitrosomonas** D Nitrogenase

44 A by product of coastal salt industry- schoenite is a rich source of plant nutrient

C A N B P C **K** D Zn

45 It has higher CEC

B A FYM B **Humus** C Root D Clay

46 The C : N ratio of the soil are fairly constant between

A A **10 : 1 to 12 : 1** B 50 : 1 to 60 : 1 C 1 : 10 to 1 : 12 D 1 : 10 to 12 : 6

47 Rock phosphate is applied in

	C	A	Normal soil	B	Calcareous soil	C	**Acid soil**	D	Degraded alkali soil
48		Conversion factor for P to P_2O_5 is							
	C	A	2.00	B	2.5	C	**2.29**	D	1.92
49		According to LCC, which class of land is suitable for wild life							
	B	A	III	B	**VIII**	C	IV	D	VI
50		The essentiality of N was established by							
	B	A	E. Gris	B	**De Saussure**	C	Arnon	D	Lipman
51		The gram equivalent weight of Na_2CO_3 is							
	B	A	40	B	**53**	C	106	D	50
52		The gram equivalent weight of H_2SO_4 is							
	C	A	98	B	36.5	C	**49**	D	63
53		One angstrom is equal to							
	B	A	10^{-8} m	B	**10^{-9} m**	C	10^{-7} m	D	10^{-10} m
54		One gram equivalent NaOH is equal to							
	B	A	1000 mg NaOH	B	**40 g NaOH**	C	4 g NaOH	D	10000 mg NaOH
55		One milli equivalent NaOH is equal to							
	A	A	**40 mg NaOH**	B	4 g NaOH	C	1000 mg NaOH	D	4000 mg NaOH
56		Sodium chloride is a salt of							
	C	A	Strong acid – weak base	B	Weak acid – strong base	C	**Strong acid – strong base**	D	Weak acid – weak base
57		pH may be defined as							

	C	A	Negative log of OH ion concentration	B	Log of H ion concentration	C	**Negative log of H ion concentration**	D	Log of OH ion concentration

58 Basicity of H_3PO_4 is

	C	A	1	B	2	C	**3**	D	4

59 Acidity of $Ca(OH)_2$ is

	B	A	1	B	**2**	C	3	D	4

60 Basicity of oxalic acid ($H_2C_2O_4.2H_2O$) is

	B	A	1	B	**2**	C	6	D	3

61 If the solution contains [OH^-] = 10^{-8} g mole/l than pH of this solution will be

	A	A	**6**	B	8	C	2	D	4

62 Parts per million is equal to

	B	A	g/l	B	**mg/l**	C	g/kg	D	mg/ml

63 Oxidation reaction involves

	A	A	**Loss of electrons**	B	Gain of electrons	C	Sharing of electrons	D	None of these

64 The example of oxidizing agent is

	B	A	NaCl	B	**$KMnO_4$**	C	$Ca(OH)_2$	D	NaOH

65 The example of self indicator is

	C	A	Phenolphthalein	B	Methyl orange	C	**$KMnO_4$**	D	Methyl red

66 The gram equivalent weight of $KMnO_4$ is

	B	A	158	B	**31.6**	C	63.2	D	94.8

67 The glass electrode is used in

	A	A	**pH meter**	B	E. C. Meter	C	Colorimeter	D	Spectrometer

68 Filter is used as dispersing device in

	B	A	Spectrometer	B	**Colorimeter**	C	pH meter	D	E. C. Meter

69 Beriberi is the disease caused by the deficiency of vitamin

	B	A	A	B	**B_1**	C	B_6	D	B_{12}

70 Chlorophyll contains

	A	A	**Magnesium**	B	Manganese	C	Iron	D	Cobalt

71 Hemoglobin contains

	C	A	Nickel	B	Cobalt	C	**Iron**	D	Magnesium

72 The method used to determine available phosphorus from soil is

	C	A	Moh'r method	B	Versenate method	C	**Olsen's method**	D	Molisch's method

73 Fehling's B solution contains salt known as

	C	A	Raswlf salt	B	Benedict salt	C	**Rochelle salt**	D	Rock salt

74 Vitamin C is also known as

	C	A	Acetic acid	B	Formic acid	C	**Ascorbic acid**	D	Aspartic acid

75 When diacid mixture is used for digestion of plant sample, the element can not be determined from that extract is

		A	**N**	B	K	C	P	D	S

76 Fehling's A solution contains

	C	A	$FeSO_4.5H_2O$	B	$MgSO_4.3H_2O$	C	**$CuSO_4.5H_2O$**	D	$ZnSO_4.7H_2O$

77 Method used for the determination of lime requirement of an acid soil is

	B	A	Moh'r method	B	**Shoemaker's method**	C	Olsen's method	D	Kleinal's method

78 The dye used for titrimetric determination of ascorbic acid is

	C	A	Para Nitro phenol	B	2,4-dinitrophenol	C	**2-6 di chloro phenol indophenol**	D	2, 6 dibromo phenol indophenol

79 At which wavelength, plant phosphorus can be estimated on Uv- vis spectrophotometer?

C A 440 nm B 660 nm C **470 nm** D 570 nm

80 Metaphosphoric acid is

C A H_3PO_4 B H_3PO_3 C **HPO_3** D $H_4P_2O_7$

81 The indicator used in determination of Organic carbon from soil is

B A Methylene blue B **Diphenyl amine** C Methyl orange D Methyl red

82 Determination of Fe, Mn, Zn, and Cu from plant is done by using

C A FPM B SPM C **AAS** D EC meter

83 Which vitamin contains metal ion?

C A Vitamin A B Vitamin C C **Vitamin B_{12}** D Vitamin B_1

84 Soil productivity is basically a:

B A Social concept B **Economic concept** C Physical concept D Chemical concept

85 Gypsum is used for the reclamation of

A A **Sodic soil** B Heavy soil C Saline soil D Acidic soil

86 Decomposition of organic matter results in an increase of

C A Salinity B Alkalinity C **Acidity** D Sodicity

87 kg/ha = ppm x _____

A A **2.24** B 4.48 C 1.12 D 1.24

88 The organic fertilizer is:

B A Sufala B **Urea** C DAP D Muriate of potash

89 The pH value varies from

C A 7.00 to 14.00 B 0.00 to 7.00 C **0.00 to 14.00** D None of these

90 The green manure crop is turned into soil at the stage of crop

C A Germination B Harvest C **Flowering** D Boot stage

91 Requirement of phosphorus by the crop is maximum at _____ growth stage

A A **Initial** B Flowering C Lateral D Harvest

92 ppb = _____

C A mg/ml B g/ml C **µg/l** D g/l

93 The salt used along with $CuSO_4$ and $FeSO_4$ as digestion mixture used for N estimation is

B A $MgSO_4$ B **K_2SO_4** C Na_2SO_4 D $ZnSO_4$

94 Vitamin A deficiency causes

C A Scurvy B Beriberi C **Night blindness** D Dizziness

95 Sugar presents in milk

A A **Lactose** B Galactose C Maltose D Fructose

96 Paddy crop absorbs nitrogen in form of:

B A NH_2 B **NH_4** C NO_3 D N_2

97 Organic nitrogen converted in to NH_4 form is known as

B A Nitrification B **Ammonification** C Denitrification D Immobilization

98 Optical Density =

A A **2-logT** B Log -2T C 2log-T D T-log2

99 The specific gravity of water

B A 1.5 Mg m^{-1} B **1.0 Mg m^{-1}** C 5.1 Mg m^{-1} D 0.1 Mg m^{-1}

100 The nutrient required for quality maintenance in potato:

B A Zinc B **Potassium** C Iron D Phosphorus

101 **B** The two non-metallic elements occurring in greatest abundance in the earth crust are

(a) Calcium & Magnesium (b) Oxygen & Silicon (c) Aluminum & iron

102 **A** Science which deals with the description of rocks

(a) Petrography (b) Petrogenesis (c) Chromatography (d) pedology

103 **B** Water plays an important role in the formation of

(a) Igneous rock (b) Sedimentary rock (c) Metamorphic rock (d) None

105 **C** When igneous rocks are become metamorphic rocks due to pressure

(a) Hydrometmorphic (b) Thermometamorphic (c) Dynamometamorphic (d) none

106 **B** The parent materials deposited near the base of strong slope by the action of gravity (a) Lucustrain (b) Colluvium (c) Alluvium (d)aeolian

107 **A** The parent materials of sand size transported by the action of wind is called

(a) Eolian (b) Moraine (c) Loess (d) Alluvium

108 **B** The excavation and destructive action of water on rock and minerals is called

(a) Exfoliation (b) Denudation (c) Chemical weathering (d)Marine

109 **C** The rocks gets broken in pieces due to temperature is called

(a) Chemical weathering (b) Denudation (c) Exfoliation (d) physical weathering

110 **B** The fourth most abundant element in the earth crust is

(a) Oxygen (b) Iron (c) Aluminium (d) silica

111 **C** Marble is metamorphic rock converted from lime stone due to the action of

(a) Temperature (b) Pressure (c) Heat (d) water

112 **C** The individual grains size in rudaceous sedimentary rock are of

(a) Sand (b) Clay (c) boulders and pebbles (d) silt

113 **A** The clay fraction of the soil has diameter less than

(a) 0.002 mm (b) 0.2 mm (c) 0.02 mm (d) 0.0002 mm

114 **B** The time that nature devotes to the formation of soil is termed as

(a) Periodical table (b) Pedological time (c) Soil stages (d) temporal

115 **C** B_1 horizon in the soil profile is also known as

(a) Allivial (b) Eluvial (c) Illuvial (d) aeolium

116 **B** Sedimentary rocks are also known as

(a) Metamorphic rock (b) Stratified rock (c) Igneous rock (d) extrusive rocks

117 **C** Accumulation of Calcium carbonate in the profile is called

(a) Salinization (b) Solonization (c) Cacification (d) solodization

118 **A** An active soil forming factor is

(a) Climate (b) Parent material (c) Topography (d) time

119 **A** An artificially formed soil mass is called

(a) ped (b) crust (c) clod (d) land

120 **C** Deep black soil of Gujarat is also known as

(a) black soil (b) alluvial soil (c) *regurs* soil (d) brown soil

121 **A** Two water molecules are held by _____ bond.

(a) Hydrogen (b) ionic (c) covalent (d) negative

122 **B** The soil having PD 2.50 g/cc and BD 1.25 g/cc will have _____ % porosity.

(a) 45 (b) 50 (c) 55 (d) 60

123 **C** Total porosity is more in:

(a) Sandy soil (b Loamy soil (c) Clayey soil (d) silty soil

124 **A** The best agricultural soil structure is:

(a) spheroidal (b) Platy (c) prism (d) columnar

125 **C** Chemically most active soil separate is

(a) sand (b) silt (c) clay (d) gravel

126 **B** The common clay mineral found in silt is

(a) montmorillonite (b) mica (c) quartz (d)kaolinite

127 **B** The lightness or darkness of soil coulour is denoted by:

(a) hue (b) value (c) chroma (d) none of these

128 **C** Black soil are _____ in organic matter:

(a) Medium (b) Poor (c) High (d) None of these

129 **B** At FC moisture is held at:

(a) - 31 water potential bar (b) - 1/3 water potential bar

(c) - 15 water potential bar (d) None of these

130 **B** Organic matter influences water holding capacity of soil in the following manner:

(a) Is not affected at all (b) Is decreased (c) Is stabilized (d) Is increased

131 **A** Soil containing high proportion of organic matter have the following colour:

(a) Dark colour (b) Yellow colour (c) Red colour (d) Light colour

132 **D** The components of soil are:

(a) Mineral matter (b) Organic matter (c) Water & Air (d) All of these

133 **A** Relative proportion of soil separates in sand, silt and clay is termed as:

(a) Soil texture (b) Soil structure (c) Soil porosity (d) None of these

134 **C** The arrangement of individual soil particles in a specific pattern is called:

(a) Soil texture (b) Soil separates (c) Soil structure (d) None of these

135 **B** When organic matter is added to the soil:

(a) Bulk density does not change (b) Bulk density is decreased

(c) Bulk density is increased (d) None of these

136 **B** A branch of soil science which deals with the soil from the crop production point of view:

(a) Pedology (b) Edaphology (c) Ecology (d) Soil geology

137 **C** An average particle density of soils is:

(a) 1.5 g/cc (b) 2.0 g/cc (c) 2.65 g/cc (d) None of these

138 **B** The process of determining the amount of sand, silt and clay is known as:

(a) Soil analysis (b) Mechanical analysis (c) Statistical analysis (d) Chemical analysis

139 **A** Particle density is also known as:

(a) True density (b) Bulk density (c) Apparent density (d) Specific gravity.

140 **A** The best agricultural soil structure is:

(a) Crumb (b) Platy (c) Columnar (d) Blocky

141 **C** Volumetrically soil contains _____ % mineral matter.

(A) 25 (B) 5 (C) 45 (D) 40

142 **A** The soil colours are determined by:

(A) Munsell chart (B) Periodic table (C) Fertility chart

143 **B** The reaction of oil/fat with NaOH/KOH as…..

(a) Hydrogenation (b) Saponification (c) Halogenation (d) Hydrolysis

144 **A** Monosaccharids possess reducing property due to the presence of

(a) Free aldehyde or keto group (b) Free alcohol group

(c) Free amino group (d) Free thiol group

145 **B** Compounds which in solution rotate the plane of polarized light to the right are called

(a) Laevo rotatory (b) Dextro rotatory (c) Optically inactive (d) All of three

146 **B** At isoelectric point the proteins are

(a) Acidic (b) Neutral (c) Basic (d) None of these

147 **A** Enzymes which exist in multiple forms within single specing of an organism

(a) Isoenzyme (b) Coenzyme (c) Apoenzyme (d) Holoenzyme

148 **C** Chlorophyll is present in

(a) Vacuole (b) Nucleus (c) Chloroplast (d) Golgi body

149 **D** Man cannot digest cellulose due to the absence of

(a) Hemicellulase (b) Protease (c) Lipase (d) Cellulase

150 **B** Number of hydrogen bonds present between adenine and thymine

(a) 1 (b) 2 (c) 3 (d) 4

151 **A** Socrates was given a cup of

(a) Dhatura alkaloid (b) nicotine (c) Stachydrine (d) Hordinine

152 **A** ATP is produced in the cristae of

(a) Mitochondria and chloroplasts (b) Stroma (c) Nucleus (d) Cell wall

153 **B** The cation exchange phenomenon was first recognized by _____ .

(a) Walkly and Black (b) Thompson and Way (c) Arnon and Stout (d) William and Tan

154 **B** _____ hydroxide act as cementing agent in binding the soil particles together.

(A) Ca & Mg (B) Fe & Al (C) Na & K (d) Ca & Na

155 **C** _____ reagent is used for the determination of micronutrient cations from the soil.

(A) EDTA (B) CDTA (C) DTPA (d) TEA

156 **C** _____ fertilizers are applied for improvement of quality and strength of fiber crops.

(A) Phosphatic (B) Nitrogenous (C) Potassic (d) sulphur

157 **B** _____ process depends on partial dissociation of water into H and OH ions.

(A) Hydrolysis (B) Hydration (C) Solution (d)Carbonation

158 C _____ is the ability of a substance to transfer heat from molecule to molecule.

(A) Specific heat (B) Heat capacity (C)Thermal conductivity (d)Thermal diffusivity

159 C _____ is non-symbiotic N-fixer in soil.

(A) *Rhizobium* (B) Fungi (C) *Azatobactor* *(d) Azospirillium*

160 C _____ is symbiotic N-fixer in leguminous crop.

(A) Fungi (B) *Azatobactor* (C) *Rhizobium* *(d) Azospirillium*

161 B _____ potential is due to presence of solute in the soil.

(A) Gravimetric (B) Osmotic (C) Matric (d) pressure potential

162 A _____ is conversion of soil nitrate into gaseous nitrogen.

(A) Denitrification (B) Nitrification (C) Ammonification (d) Denitrification

163 B _____ is one of the phosphate solubilizer species of micro organisms.

(A) *Azolla* (B) *Pseudomonas* (C) *Azotobactor* *(d) Azospirillium*

164 B _____ is the study of origin of rocks.

(A) Pedology (B) Petrology (C) Petrograpgy (d) edapology

165 A _____ cation is dominant in sodic soil.

(A) Sodium (B) Potassium (C) Calcium (d) Magnesium

166 A _____ is passive soil forming factor.

(A) parent material (B) Biosphere (C) climate (d) None of these

167 A _____ is example of silicate clay minerals.

(A) Kaolinite (B) Apatite (C) Tourmaline (d)illite

168 A _____ is fast decomposing material in soil.

(A) Sugar (B) Lignin (C) Fats (d) Protein

169 B _____ mineral is a source of boron in soils.

(A) Apatite (B) Tourmaline (C) Biotite (d) illite

170 A _____ mineral is a source of phosphorus in soils.

(A) Apatite (B) Tourmaline (C) Biotite (d) Kaolonite

171 C _____ fertilizers are applied for improvement of quality and strength of fiber crop.

(A) Phosphoric (B) Nitrogenous (C) Potassic (d) Sulphur

172 **A** _____ cake has highest nitrification rate.

(A) Groundnut (B) Castor (C) Neem (D) Mahua

173 **C** _____ is an example of the most persistent herbicides.

(A) Simazine, (B) 2-4-D (C) Glyphosate (d)2-4-5-D

174 **C** _____ is example of immobile element in soil.

(A) Nitrogen (B) Potassium (C) Phosphorus (d) Zinc

175 **C** _____ fertilizer is used for the paddy crop.

(A) Nitrate (B) Ammonical (C) Ammonical –Nitrate (d) Amide

176 **B** _____ is one of the phosphate solubilizer species of micro organisms.

(A) *Azolla* (B) *Pseudomonas* (C) *Azotobactor (d) Rhizobium*

177 **C** _____ = (CO_3 + HCO_3) – (Ca + Mg).

(A) ESP (B) SAR (C) RSC (D) RSBC

178 **B** _____ is a recent soil order.

(A) Inceptisols (B) Endisols (C) Alfisols (D) Aridisol

179 **A** _____ is also known as saline soil.

(A) White alkali (B) Black alkali (C) *Usar*

180 **B** _____ is beneficial element for the plant.

(A) Nitrogen (B) Silicon (C) Iron (d) Phosphorus

181 **A** _____is the process of decomposition of organic matter.

(A) Humification (B) Aminization (C) Nitrification (d) Denitrification

182 **A** _____structure provides less porosity in soils.

(A) Platy (B) Spherical (C) Granular (d) Columnar

183 **A** 1 m.e. H^+ = _____ mg Ca^{++}.

(A) 20 (B) 40 (C) 12 (d) 25

184 **A** 1 me gypsum per 100 g = _____ mg/100g gypsum.

(A) 86.0 (B) 172 (C) 50 (d) 75

185 **A** 1 me Na^+ = _____ mg Na^+.

(A) 23 (B) 12 (C) 46 (d) 58

186 **A** A simple method for the determination of moisture is _____

(A) Gravimetric (B) Titration (C) Neutron scattering (d)Cohesion

187 **A** Accumulation of _____ in soil profile is more in calcification processes.

(A) $CaCO_3$ (B) $CaSO_4$ (C) $CaCl_2$ (d) $Nacl_2$

188 **C** Ammonification involves transformation of

(A) sugar to CO_2 (B) nitrate to Nitrite (C) amino acid to ammonia (d)ammonia to amino acid

189 **B** As per WHO, the safe limit of nitrate content in ground water is _____mg/l.

(A) 1 (B) 10 (C) 100 (d) 50

190 **A** At a point C:N ratio, becomes more or less constant, generally stabilizes at_____.

(A) 10:1 (B) 20:2 (C) 30:3 (d) 50:1

191 **A** Average nitrogen concentration in plant tissue is_____ %.

(A) 1.5 (B) 0.5 (C) 5.1 (d) 50

192 **C** *Azatobactor* can fix _____ kg atmospheric nitrogen /ha to the soil.

(A) 200 (B) 2 (C) 20 (d) 2000

193 **B** Boron content of irrigation water ranged from ___ mostly sensitive to citrus crop.

(A) 3.0 – 10.0 ppm (B) 0.3 – 1.0 (C) 30.0-100.0 (d) 30-300

194 **A** Burning quality of Tobacco decreased due to

(A) chloride (B) sulphate (C) potassium (d) Phosphorus

195 **C** CAN fertilizer is _____ fertilizer

(A) acidic (B) basic (C) neutral (d) None of these

196 **C** Carryover fertilizer effects are more pronounced in the case of _____.

(A) urea (B) CAN (C) SSP (d) DAP

197 **C** Chemically the most active soil separate is_____.

(A) sand (B) silt (C) clay (d) gravel

198 **B** Clay having _____ charge so that they attract and adsorb primarily cations.

(A) positive (B) negative (C) neutral (d) none of these

199 **A** Compaction _____ bulk density of soil.

(A) increases (B) decreases (C) none of these (d)

200 **B** Conversion of K to K_2O is _____.

(A) 2.1 (B) 1.2 (C) 2.2 (d) 1.32

201 **C** Conversion of P to P_2O_5 is _____.

(A) 2.10 (B) 1.20 (C) 2.29 (d) 2.24

202 **C** DDT has _____ half life years in cultivated soils.

(A) 6.0 (B) 3.0 (C) 9.0 (d)12

205 **C** Deficiency of _____ nutrient shows marginal burning of leaves, irregular fruit development of plant. (A) N (B) P (C) K (d) Fe

206 **B** Deficiency of _____ appears short internodes in plant.

(A) zinc (B) nitrogen (C) copper (d) potassium

207 **C** Di-Ammonium Phosphate fertilizer contains _____ % nitrogen.

(A) 46 (B) 21 (C) 18 (d) 24

208 **A** Eaton (1950) suggested the concept of _____.

(A) RSC (B) SAR (C) TSS (d) RSBC

209 **B** Essentially criteria of nutrient are given by _____.

(A) Schoonover (B) Arnon (C) Jackson (d) Schofield

210 **A** Exchangeable sodium percentage (ESP) less than _____ is safe for tolerable soil physical conditions. (A) 15 (B) 20 (C) 30 (d) 25

211 **B** Fertilizer like _____ destroys the soil aggregates.

(A) urea (B) sodium nitrate (C) calcium nitrate (d) DAP

212 **B** Flame-photometer is used for the determination of _____.

(A) available P (B) available K (C) available N (d) Sulphur

213 **C** For multi element analysis, the plant materials should be digested in _____acid alone. (A) nitric (B) sulphuric (C) perchloric (d) Hydrochloric

214 **C** Generally, _____ extractant is used to determine available micronutrients from soil.

(A) EDTA (B) CDTA (C) DTPA (d) $CaCl_2$

216 **B** Generally, true density of normal soils is _____ g/cc.

(A) 1.65 (B) 2.65 (C) 3.65

217 **C** Growth stimulation of aquatic organisms through nutrient enrichment of lakes and ponds is known as _____.

(A) enrichment (B) amendment (C) eutrofication

218 **B** High nitrate content in drinking water causes _____ disease in infants.

(A) anemia (B) methamoglobinemia (C) pneumonia

219 **C** Illite is _____ type of silicate clay mineral.

(A) 2 : 1 (B) 1 : 1 (C) 1 : 2

220 **A** Immobile element in plant is _____.

(A) calcium (B) potash (C) nitrogen

221 **A** In _____ nutrient content is expressed in ratios of nutrients.

(A) DRIS (B) STCR (C) IPNM

222 **A** In Gujarat, salts affected soils observed in _____ region is due to marine deposit of receding of the sea.

(A) *Bhal* (B) *Charotar* (C) *Ghed* (d) Kachchh

223 **B** In waterlogged rice field, ___ are capable of fixing atmospheric nitrogen to the soil.

(A) fungi (B) blue-green algae (C) bacteria (d) Actenomycetes

224 **B** Irrigation water having SAR value 10-18 is considered as _____ Na water.

(A) low (B) medium (C) high (d) very high

225 Kaolinite and illite types of clay minerals are dominant in _____soils.

(A) acid soils (B) Alkali soils (C) saline soils (d) saline-sodic

226 **B** Kaolinite is _____ type of clay mineral.

(A) expanding (B) non-expanding (C) less expanding (d) none of these

227 **B** kg/ha = ppm x _____

(A) 0.864 (B) 2.24 (C) 1.20 (d) 2.0

228 **A** Khaira disease of rice is caused by _____deficiency.

(A) zinc (B) iron (C) boron (d) nitrogen

229 **A** Kjeldahl method is used to determine _____ of soil.

(A) total N (B) organic C (C) available K (d) available P

230 **C** Lime induced chlorosis is mostly observed in _____,

(A) acid soils (B) alkali soils (C) calcareuses soils (d) saline

231 **B** Lime requirement can be determined by_____ method.

(A) Olsen's (B) Schoonover's (C) Walkly & Black (d) Parker's

232 **C** Mahua cake contain _____ alkaloid.

(A) nimbidin (B) ricin (C) saponin (d) non of these

233 **B** mg/100 g = me/100 g x _____ .

(A) mol. wt. (B) eq. wt (C) atomic wt. (d) atomic no.

234 **B** Most of the gaseous interchange in soil occurs by _____.

(A) mass flow (B) diffusion (C) interception (d) contact exchange

235 **C** Movement of nutrient ions and salts along with moving water is termed as:

(A) diffusion (B) contact exchange (C) mass flow (d) contact exchange

236 **B** Natural aggregates are called as _____.

(A) clods (B) peds (C) sphere (d)pebbles

237 **B** One tone of gypsum is equivalent to _____ tone of sulphur.

(A) 0.570 (B) 0.186 (C) 1.620 (d) 2.300

238 **A** Only _____ per cent of mineral nutrients are dissolved in soil water.

(A) < 0.2 (B) < 2.0 (C) > 2.0 (d) <20.0

239

240 **C** Out of A, B and C horizon, _____ is not a part of soil solum.

(A) B (B) C (C) A (d) all above

241 **C** parts per million (ppm)=_____

(A) mg/kg (B) g/kg (C) mg/g (d) kg/kg

242 **C** Plant samples are oven dried at _____ °C.

(A) 105 $\pm$ 5 (B) 85 $\pm$ 5 (C) 65 $\pm$ 5 (d) 70$\pm$ 5

243 **A** Red colour of soil is associated with _____.

(A) ferric oxide (B) silica (C) lime (d) feldspars

244 **A** Relative proportion of sand, silt and clay is referred as _____.

(A) soil texture (B) soil structure (C) soil pores (d) plasticity

245 Rhizobium fixes _____ kg atmospheric nitrogen /ha to the soil.

(A) 10 (B) 20 (C) 30 (d) 40

246 **B** Rock phosphate is applied in _____ type soil.

(A) alkali (B) acid (C) neutral(d) saline-alkali

247 **A** Salt moved to inland through the transportation of spray by wind are called _____ .

(A) cyclic salt (B) salt deposits (C) transported salts (d) secondary salt

248 **C** Soil act as a _____ filter by adsorbing and precipitation.

(A) physical (B) biological (C) chemical (d) physico- chemical

249 **A** Soil pH > 8.5 indicates soil is_____

(A) alkaline (B) acidic (C) neutral (d) none

250 **A** Soils having EC - rated as Saline soil

(A) EC > 4.0 (B) EC < 4.0 (C) EC 1.0

251 **A** Spectrophotometer is used for the determination of _____.

(A) available P (B) available K (C) available N (d) available S

252 **B** Stokes' law is applied in estimation of_____.

(A) electrical conductivity (B) mechanical analysis of soil (C) soil pH (d) EC

253 **B** Sulphate of potash contain _____ % K_2O.

(A) 40-44 % (B) 48-52 % (C) 52-56 % (D) 36-40 % (60-62%

254 **C** The _____ is example of non-metal nutrient.

(A) Mg (B) Mn C) Mo (d) Zn

255 **B** The active acidity of soils is measured by _____

(A) EC (B) pH (C) ESP (d) RSC

256 **C** The activities of _____ more in acid soils.

(A) bacteria (B) actinomycetes (C) fungi (d) algae

257 **A** The application of fertilizer in irrigation water in either open or closed system is known as _____.

(A) fertigation (B) drip irrigation (C) sprinkler irrigation (d) flood irrigation

258 **B** The arrangement of soil particle into certain definite pattern is called:

(A) soil texture (B) soil structure (C) soil consistence (d) Plasticity

259 **B** The arrangement of three atoms in a water molecule is not _____.

(A) symmetrical (B) asymmetrical (C) equal (d) double

260 **B** The author of "Introductory Soil Science" is _____.

(A) N. C. Brady (B) D. K. Das (C) J. S. Kanwar (d) T.D. Biswas

261 **B** The author of "Soil Fertility -Theory and Practice" is _____.

(A) Gupta (B) Kanwar (C) Tisdale (d) T.D. Biswas

262 **C** The bulk density of organic matter is about _____ g/cc.

(A) 1.0 (B) 1.5 (C) 0.5 (d) 2.0

263 **A** The bulk density of soil is always ___ than particle density in cultivated soil.

(A) less (B) equal (C) greater (d) triple

264 **A** The CEC of illite is ranged between _____ me/100g.

(A) 15-40 (B) 3-15 (C) 80-100 (d) 120-150

265 **A** The chelated form of zinc is_____.

(A) Zn-EDTA (B) Zn-DTPA (C) Zn-ZnO (d) Zn-CDTA

266 **A** The chemical formula of gypsum is _____
(A) $CaCl_2.2H_2O$ (B) $CaSO_4.2H_2O$ (C) $CaCO_3$ (D) $CaSO_4$

267 **C** The chemical formula of lime is _____
(A) $CaCl_2.2H_2O$ (B) $CaSO_4.2H_2O$ (C) $CaCO_3$ D) $CaSO_4$

268 **C** The clay colloids can be moulded in any shape due to the property of_____ .

(A) consistency (B) swelling (C) plasticity (d) shrinkage

269 **B** The clay minerals carry _____ electrical charge on their surface.

(A) positive (B) negative (C) neutral (d) none

270 **A** The CO_2 content of the cultivated soil is _____ per cent.

(A) 0.25 (B) 0.03 (C) 20.60 (d) 30.0

271 **A** The colloidal particles are coagulated by adding an oppositely charged ion and formation of flocs is known as _____.

(A) flocculation (B) deflocculation (C) adsorption. (d) absorption.

272 **B** The criteria of nutrient essentiality are given by _____.

(A) Schoonover (B) Arnon (C) Jackson (d) Schofield

273 **A** The dicot plant roots have _____ CEC.

(A) high (B) medium (C) low (d) none of these

274 **B** The excavation and destructive action of water on rocks and minerals is called___.

(A) exfoliation (B) denudation (C) chemical weathering (d) physical

275 **A** The horizons A + B + C collectively known as_____ .

(A) solum (B) regolith (C) parent material (d) topography

276 **B** The irrigation water having class _____ can be use for most soils and most crops.

(A) C_2S_2 (B) C_1S_1 (C) C_4S_4 (d) C_3S_4

277 **B** The lightness or darkness of soil colour is denoted by_____.

(A) hue (B) value (C) chroma (d) all above

278 **A** The metamorphism of shale to slate is due to_____.

(A) pressure (B) heat (C) water (d) time

279 **A** The minute colloidal clay particle is technically called _____.

(A) micelle (B) mineral (C) atom (d) atomic

280 **C** The most abundant mineral in soil is_____

(A) quartz (B) feldspar (C) silicates (d) Alimonium

281 **C** The movement of water through column of soil is known as_____.

(A) infiltration (B) hydraulic Conductivity (C) percolation

282 **A** The native element of diamond is _____.

(A) O (B) H (C) C (d) N

283 **C** The nitrogen content in FYM generally ranged from _____ %.

(A) 0.05 - 10 (B) 5 - 10 (C) 0.5 - 1.0 (d) 10-15

284 **B** The nitrogen content in Urea is _____ per cent.

(A) 24 (B) 46 (C) 64 (d) 48

285 **B** The optimum range of temperature for the activity of micro-organisms is___.

(A) 20-25° C (B) 25-30° C (C) 30-35° C (d) 10-15° C

286 **A** The parent materials of sand size transported by the action of wind are called_____.

(A) eolian (B) moraine (C) loess (d) colostrums

287 **C** The pH is defined as the negative logarithm of _____activity.

(A) nitrogen (B) calcium (C) hydrogen (d) nitrogen

288 **C** The physical weathering is also known as _____.

(A) decomposition (B) integration (C) disintegration (d) all above

289 **C** The process of accumulation of soluble salt in soil is known as_____.

(A) alkalization (B) solonisation (C) salinization (d) solodization

290 **B** The process of determining the amount of sand, silt and clay is known as _____ analysis.
(A) soil (B) mechanical (C) statistical (d) chemical

291 **B** The residual effect of urea on soil reaction is_____.

(A) neutral (B) acidic (C) basic (d) none of these

292 **C** The saline – alkali soil is also known as _____.

(A) white salt (B) cyclic salt (C) usar (d) acidic

293 **B** The size of clay particle of the soil _____ mm.

(A) < 0.02 (B) < 0.002 (C) < 0.2 (d)2.00

294 **C** The sodium adsorption ratio (SAR) developed by _____.

(A) USSR (B) USA (C) USSSL

295 **B** The soil having PD 2.50 g/cc and BD 1.25 g/cc will have_____ % porosity.

(A) 45 (B) 50 (C) 55

296 **B** The soil order _____ contains organic matter more than 30 %.

(A) Aridisols (B) Histosols (C) Vertisols (d) Aridisol

297 **C** The solid zone of the earth's sphere is known as _____.

(A) atmosphere (B) hydrosphere (C) lithosphere (d) Stratosphere

298 **C** The source of N - fertilizer recommended for Tobacco

(A) urea (B) ammonium Sulphate (C) potassium Nitrate (d) CAN

299 **B** The specific gravity of light mineral is less than_____.

(A) 2.65 (B) 2.85 (C) 2.55 (d) 2.65

301 **B** The toxic ingredient present in urea is _____.

(A) uret (B) biuret (C) themate (d) acid

302 **C** The value of soil EC indicates _____ in soil.

(A) H ion (B) insoluble salts (C) soluble salts (d) Al ion

303 **C** The vertical cracks are major problem in_____.

(A) loamy soils (B) sandy soils (C) deep black soils (d) silt

304 **C** The water held tightly on the soil surface colloidal particle is known as____.

(A) available water (B) capillary water (C) hygroscopic water (d) field capacity

305 **C** The zeta potential is the magnitude of _____charge on the colloidal particles.

(A) neutral (B) positive (C) negative (d) None

306 **B** The zinc content in zinc sulphate is _____ per cent.

(A) 11 (B) 21 (C) 31 (d) 41

307 **C** There are _____ categories of classification in soil taxonomy.

(A) three (B) five (C) six (d) eightr

308 **A** Thompson and Way (1982) first recognized _____ exchange phenomenon.

(A) cation (B) anion (C) acid (d) base

309 **B** To categorize the soil into high available P_2O_5 , the value should be more than _____ kg/ha. (A) 28 (B) 56 (C) 42 (d) 62

310 **C** Total porosity is more in_____ .

(A) sandy soil (B) loamy Soil(C) clayey soil (d) sandy loam

311 **A** Two water molecules are held by _____bond.

(A) hydrogen (B) ionic (C) covalent (d) none

312 **B** Water plays an important role in the formation of_____.

(A) igneous rock (B) sedimentary rock (C) metamorphic rock (d) all above

313 **B** When the magma solidified at greater depth is called_____.

(A) effusive (B) intrusive (C) plutonic (d) none

(5) Statistics Multiple choices

(Note:-Bold option is correct answer in all the questions)

1. Mean is a measure of: **location (central value)**
   (a) dispersion
   (b) correlation
   (c) none of the above
2. Which of the followings is a measure of central value?
   (a) Median
   (b) Standard deviation
   (c) Mean deviation
   (d) Quartile deviation
3. Which of the followings represents median?
   (a) First quartile
   (b) Fiftieth percentile
   (c) Sixth decile
   (d) None of the above
4. If a constant value 50 is subtracted from each observation of a set, the mean of the series is:
   (a) increased by 50
   (b) decreased by 50
   (c) is not affected
   (d) zero
5. The extreme value have no effect on :
   (a) average
   (b) median
   (c) geometric mean
   (d) harmonic mean
6. If the minimum value in a set is 9 and its range is 57, the maximum value of the set is
   (a) 33
   (b) 66
   (c) 48
   (d) none of the above
7. If each value of a series is divided by 2, the mean of new values:
   (a) is two times the original mean
   (b) is decreased by 2
   (c) is increased by 2
   (d) is half of the original mean
8. If the values of a set are measured in cms., the unit of variance will be:
   (a) no unit
   (b) cm
   (c) cm^2
   (d) cm^3
9. Which measure of dispersion has a different unit other than the unit of measurement ofValues:
   (a) Range

(b) Mean deviation
(c) Standard deviation
(d) Variance

10 The average of the sum of squares of the deviations about mean is called:
(a) variance
(b) absolute deviation
(c) standard deviation
(d) mean deviation

11. Quartile deviation is equal to:
(a) interquartile range
(b) double the interquartile range
(c) half of the interquartile range
(d) none of the above

12 Which measure of dispersion can be calculated in case of open end intervals?
(a) Range
(b) Standard deviation
(c) Coefficient of variation
(d) Quartile deviation

13. Which of the following is unit less measure of dispersion ?
(a) Standard deviation
(b) Mean deviation
(c) Coefficient of Variation
(d) Range

14. Three houses were available in a locality for allotment. Three persons applied for a house. The probability that all the three persons applied for the same house is:
(a) 1/3
(b) 1/9
(c) 1/27
(d) 1

15. A speaks truth 4 times out of five and B speaks truth 3 times out of four. They agree in the assertion that a white ball has been drawn from a bag containing 10 balls of different colours. The probability that a white ball was really drawn is:
(a) 3/50
(b) 1/27
(c) 1/1350
(d) 81/82

16. In the problem of question 15 if the bag contains 1 white and 9 red balls, the probability of one white ball being drawn is:
(a) 4/7
(b) 3/50
(c) 9/200
(d) none of the above

17. If A tells truth 4 times out of 5 and B tell truth 3 times out of 4. The probability that, both expressing the same fact contradicts each other is:
(a) 1/20
(b) 3/20
(c) 1/5
(d) none of the above

18. The family of parametric distributions which has mean always less than variance is:
(a) beta distribution
(b) lognormal distribution

(c) Weibull distribution
(d) negative binomial distribution

19. The distribution possessing the memory less property is:
(a) gamma distribution
(b) geometric distribution
(c) hypergeometric distribution
(d) all the above

20. Which one problem out of the four is not related to stratified sampling?
(a) Fixing the criterion for stratification
(b) Fixing the number of strata
(c) Fixing the sample size
(d) Fixing the points of demarcation between strata

21. Regarding the number of strata, which statement is true?
(a) Less the number of strata, better it is
(b) More the number of strata, poorer it is
(c) More the number of strata, better it is
(d) Not more than ten items should be there in a stratum

22. Under equal allocation in stratified sampling, the sample from each stratum is:
(a) proportional to stratum size
(b) of same size from each stratum
(c) in proportion to the per unit cost of survey of the stratum
(d) all the above

23. Under proportional allocation, the size of the sample from each stratum depends on:
(a) total sample size
(b) size of the stratum
(c) population size
(d) all the above

24. Under proportional allocation one get:
(a) an optimum sample
(b) a self-weighing sample
(c) both (a) and (b)
(d) neither (a) nor (b)

25. How many types of optimum allocation are in common use?
(a) One
(b) Two
(c) Three
(d) Four

26. Least square estimators of the parameters of a linear model are:
(a) unbiased
(b) BLUE
(c) UMVU
(e) all the above

27. Least square estimators of the parameters of a linear model are not:
(a) necessarily consistent
(b) scale invariant
(c) asymptotically normal
(d) all the above

28. A hypothesis may be classified as:
(a) simple
(b) composite
(c) null
(d) all the above

29. The hypothesis under test is:
(a) simple hypothesis
(b) alternative hypothesis
(c) null hypothesis
(d) none of the above

30. Whether a test is one sided or two sided depends on:
(a) alternative hypothesis
(b) composite hypothesis
(c) null hypothesis
(d) simple hypothesis

31. A wrong decision about Ho leads to:
(a) one kind of error
(b) two kinds of error
(c) three kinds of error
(d) four kinds of error

32. Power of a test is related to:
(a) type I error
(b) type II error
(c) types I and II errors both
(d) none of the above

33. If θ is the true parameter and β the type II error, the function $\beta(\theta)$ is known as:
(a) power function
(b) power of the test
(c) operating characteristic function
(d) none of the above

34. In terms of type II error β and θ, the true parameter, the function $1 - \beta(\theta)$ is called:
(a) power of the test
(b) power function
(c) OC function
(d) none of the above

35. Out of the two types of error in testing, the more severe error is:
(a) type I error
(b) type II error
(c) both (a) and (b) are equally severe-
(e) no error is severe

36. Area of the critical region depends on:
(a) size of type I error
(b) size of type II error
(c) value of the statistic
(d) number of observations

37 Regression coefficient is independent of
(a) Origin
(b) Scale
(c) Both (a) & (b)
(d) Nither (a) nor (b)

38. Randomization in an experiment helps to eliminate:
(a) systematic influences
(b) human biases
(c) dependence among observations
(e) all the above

39 Binomial and Poisson distribution are of :
discrete type

continuous type
discrete as well as continuous
none of above

40 Normal distribution curve with regard to bulginess :
leptokurtic
mesokurtic
platykurtic
not definite

41 The relation between the mean and variance of chi-square dist^{n} with n d.f. is
mean = 2 variance
2 mean = variance
mean = variance
none of the above

42 Most of the non-parametric methods utilize measurements on
interval scale
ratio scale
ordinal scale
nominal scale

43. Two random variables X and Y are said to be independent if
E(XY) = 1
E(XY) = 0
E(XY) = E(X).E(Y)
E(XY) = any constant value

44. Chi-square distribution curve in respect of symmetry is
positively skew
negatively skew
symmetrical
any of the above
Coefficient of skewness for normal distribution is
greater than 3
less than 3
equal to 3
zero

45. If β_{yx} and β_{xy} are two regression coefficients, they have :
same sign
opposite sign
either same or opposite signs
nothing can be said
46A sample consists of :
all units of the population
50% units of the population
5% units of the population
any fraction of the population

46 The number of all possible samples of size two from a population of 4 units as:
2 (b) 4 (c) 8 (d) **12**

47 A population consisting of all the items which are physically present is called :
hypothetical population
real population
infinite population
none of the above

48 A function of variates for estimating a parameter is called :
an estimate
an estimator

a frame
a statistic

49 If all the observations in a set of observations are same, the variance of the set of values
is :

zero
one
infinity
not possible to calculate

(6) Question Bank for the Department of Microbiology

(Note: - Under line options are Answers of all the questions)

1) Lichen is a symbiotic association between fungi and
   a) Algae
   b) Virus
   c) Protozoa
   d) Plants
2) Frankia belongs to which of the following groups of microorganisms
   a) Cyanobacteria
   b) Green algae
   c) *Methanobacterium*
   d) Actinomycetes
3) Which of the following microorganisms show associative symbiosis
   a) *Azotobacter*
   b) *Azospirillum*
   c) *Spirulina*
   d) *Rhizobium*
4) Streptomycin was discovered by
   a) Waksman
   b) Pasteur
   c) Leeuwenhoek
   d) Winogradsky
5) Penicillin was discovered by
   a) Alexander Fleming
   b) Lederberg
   c) Galileo
   d) Joseph Lister
6) Bacteriophage belong to which group of microorganism
   a) Bacteria
   b) Virus
   c) Fungi
   d) Cyanobacteria
7) The term Rhizosphere was coined by
   a) Hiltner
   b) Waksman
   c) Ruinen

d) Kary Mullis

8) The use of condenser in microscope was introduced by
   a) Abbe
   b) Pasteur
   c) Adolf Mayer
   d) Watson and Crick

9) Blue mold rot in bread is caused by
   a) Penicillium
   b) Rhizopus
   c) Mucor
   d) Salmonella

10) Spontaneous generation theory was finally disproved by
   a) Louis Pasteur
   b) Robert Koch
   c) Paul Ehrlich
   d) Metchnikoff

11) Ray fungi is another name of which of the following microorganisms
   a) Actinomycetes
   b) Cyanobacteria
   c) Fungus
   d) Lichen

12) Phycology deals with the study of
   a) Algae
   b) Fungi
   c) Protozoa
   d) Mycoplasma

13) Which of the following is of prokaryotic origin
   a) Blue-Green algae
   b) Brown algae
   c) Green algae
   d) Red algae

14) Blue-green algae belong to a group of microbes called
   a) Red algae
   b) Green algae
   c) Brown algae
   d) Cyanobacteria

15) Nitrification refers to conversion of ammonia to
   a) Nitric oxide
   b) Nitrous oxide
   c) Nitrogen gas
   d) Nitrate

16) Mycorrhizae are symbiotic association between Fungi and
   a) Fungi
   b) Bacteria
   c) Plant leaves
   d) Plant roots

17) Bacterial soft rot of fruit and vegetables is caused by
   a) *Erwinia carotovora*
   b) *Salmonella*
   c) *Proteus vulgaris*
   d) *Leuconostoc*
18) The chemical 'sodium propionate' is generally used as a inhibitor of
   a) Bacteria
   b) Mold
   c) Virus
   d) Algae
19) Which of the following is an anaerobic nitrogen fixing bacteria
   a) *Azotobacter*
   b) *Salmonella*
   c) *Derxia*
   d) *Clostridium*
20) Which of the following is a symbiotic nitrogen fixing microorganism
   a) *Frankia*
   b) *Klebsiella*
   c) *Desulphovibrio*
   d) *Clostridium*
21) Which of the following is not a entomopathogenic fungus
   a) *Beauveria*
   b) *Verticillium*
   c) *Hirsutella*
   d) *Penicillium*
22) Biogas contains highest amount of which of the following gases
   a) Methane
   b) Oxygen
   c) Carbon dioxide
   d) Hydrogen
23) Which of the following microorganisms causes Typhus fever
   a) Rickettsia
   b) Spiroplasma
   c) Mycoplasma
   d) Protozoa
24) Which of the following is an unicellular fungus
   a) *Saccharomyces*
   b) *Trichoderma*
   c) *Glomus*
   d) *Gigaspora*
25) Which of the following genetic recombination involves uptake of naked DNA
   a) Transformation
   b) Transduction
   c) Conjugation
   d) Transfection
26) Which of the following organism convert ammonia to nitrite

a) *Nitrosomonas*
b) *Nitrobacter*
c) *Azospirillum*
d) *Micrococcus*

27) Which of the following organism convert nitrite to nitrate
a) *Nitrobacter*
b) *Pseudomonas*
c) *Clostridium*
d) *Bacillus*

28) Which of the following microorganisms brings about denitrification
a) *Thiobacillus*
b) *Bacillus*
c) *Aspergillus*
d) *Clostridium*

29) Bollworm resistant cotton varieties contains gene from which microorganism
a) Bacteria
b) Fungi
c) Protozoa
d) Virus

30) Which of the following is called as extra-chromosomal genetic material
a) Plasmid
b) Gene
c) Genotype
d) Phenotype

31) The term plasmid was introduced by
a) Lederberg
b) Tatum
c) Beadle
d) Kornberg

32) The genetic material of Viroids consist of
a) DNA
b) RNA
c) Proteins
d) Both DNA and RNA

33) Coconut cadang cadang is caused by
a) Viroids
b) Prions
c) Protozoa
d) Nematodes

34) Most of the antibiotics are produced by
a) Actinomycetes
b) Cyanobacteria
c) Methanobacterium
d) Plasmodium

35) Which of the following is responsible for earthy smell of soil just after rainfall
a) Actinomycetes

b) Virus
c) Bacillus licheniformis
d) Bacillus subtilis

36) Capsid is a part of which of the following microorganism
a) Bacteria
b) Virus
c) Algae
d) Fungi

37) Azolla shows symbiotic association with
a) Anabaena
b) Bacillus
c) Nostoc
d) Calothrix

38) Heterocysts are important in
a) N-fixation
b) K-fixation
c) S-fixation
d) P-fixation

39) Heterocysts are present in which of the following microorganisms
a) Cyanobacteria
b) Fungus
c) Actinomycetes
d) Streptomyces

40) Mycorrhiza are important in uptake of
a) Phosphorous
b) Sulfur
c) Calcium
d) Nitrogen

41) Siderophores are useful in chelating of which of the following minerals
a) Iron
b) Magnesium
c) Phosphorous
d) Sulfur

42) Which of the following is absent in bacteria
a) Cell wall
b) Cell membrane
c) Nuclear membrane
d) Chromosome

43) Bacteria do not reproduce by
a) Binary fission
b) Fragmentation
c) Asexual reproduction
d) Sexual reproduction

44) TMV (Tobacco Mosaic Virus) contains …… as genetic material
a) DNA
b) RNA

c) Both DNA and RNA
d) Proteins

45) Syphilis is caused by
a) Treponema pallidum
b) Pseudomonas fluorescence
c) Bacillus subtilis
d) *Aspergillus flavus*

46) Who discovered the causative agent of malaria
a) Laveran
b) Robert Koch
c) Klebs and Loeffler
d) Nicolair

47) The phenomenon of Ice nucleation involves
a) Virus
b) Bacteria
c) Fungus
d) Protozoa

48) N-acetyl muramic acid is present in
a) Cell wall of bacteria
b) Cell membrane of bacteria
c) Cell wall of fungus
d) Cell membrane of fungus

49) Which of the following is an obligate intracellular parasite
a) Aspergillus niger
b) Influenza virus
c) Nostoc muscorum
d) Saccharomyces spp.

50) Scrapie disease of ship is caused by
a) Viroids
b) Prions
c) Mycoplasma
d) Spiroplasma

(7) Objective "Q" Bank for Genetics and Plant Breeding

Q.1 Select appropriate word and under line the same for following Statements.

1. Self pollinated species are also known as_____ species or inbreeders.

A A Allogamous B Cleistogamy C Chasmogamy D Autogamous

2. _____ has produced successful hybrids through artificial crosses.

C A Camerarius B Fairchild C Koelreuter D Jhonson

3. _____ is a progeny of single self-pollinated homozygous plant.

B A Female parent B Pureline C Inbred D Hybrid

4. Plant breeding is a science and art and technology which deal with _____improvement of crop plants in relation to their economic use for mankind.

C A Yield B Production C Genetic D Good

5. _____ method of breeding is not appropriate for cross pollinated crops.

D A Mass Selection B Back cross method C Heterosis breeding D Pure line selection

6. _____ is an ancient method of crop improvement.

B A Selection B Introduction C Hybridization D Mutagenesis

7. _____is the oldest selection methods for crop improvement

A A Mass selection B Pure line selection C Pedigree selection D Recurrent selection

8. _____ is a not a general breeding method

C A Introduction B Selection C Distant hybridization D Hybridization

9. _____ Pollinated crops have homozygous balance and are tolerent to inbreeding.

A A Self B Cross C Often cross D Non of all

10. Variety developed by mass selection method is mixture of homozygous and heterozygous plants and population is heterogeneous in _____pollinated crop

A A Self B Cross C Often cross D None of these

11. _____breeding refers to selection procedure in which the segregating population of self pollinated species is grown without selections.

C A Hybridization B Pedigree C Bulk D Back cross

12. The self progeny of F1 and the subsequent generations are termed as _____generations.

A F_2 **B segregating** C Advance D Selfed

13. _____ breeding method is generally used to improve specific character of a well adapted variety

A A Backcross B Pedigree C Bulk D Hybridization

14. Cross between two genetically different homozygote plants is _____

D A Progeny B Variety C Back cross D hybrid or F1

15. _____method does not provide opportunity to practice selection for superior plant till F5 generations.

A A Single seed descent method B Back cross method C Heterosis breeding D Pure line selection

16. _____method provides information about the mode of inheritance of various qualitative characters which is not possible by other breeding methods.

B A Back cross B Pedigree C Hybridization D Mutagenesis

17. _____ is not a useful method for handling segregating populations

B A Pedigree breeding B Bulk breeding C Back cross breeding D Hybridization

18. _____ Parent is used only once in back cross breeding method

D A Recurrent B Female C Male D Donor

19. _____ method is most useful for study competitive ability of genotypes in population.

C A Mass Selection B Back Cross breeding C Hybridization D Non of all

20. In pedigree breeding after F_8 , homozygous plants are known as _____

B A Varieties B Strains C Genotypes D Segregants

21. Cross pollinated species are also known as_____ species or inbreeders.

A A Allogamous B Cleistogamy C Chasmogamy D Autogamous

22. _____ is a progeny of two different single self-pollinated homozygous plants.

D A Female parent B Pureline C Inbred D Hybrid

23. _____ method of breeding is appropriate for improvement of good variety.

B A Mass Selection B Back cross method C Heterosis breeding D Pure line selection

24. _____is the newer methods for crop improvement

D A Selection B Introduction C Hybridization D Mutagenesis

25. _____ is a general breeding method

D A Hybridization B Mutation C Distant hybridization D Introduction

26. _____ pollinated crops have heterozygous balance and are not tolerant to inbreeding.

B A Self B Cross C Often cross D Non of all

27. Mendel theorized that genetic traits are "segregated" during gamete formation and the offspring get only one gene for a trait from each parent. Why is this important to sexually reproducing organisms?

C A They would get too many dominant traits if it did not occur B They would get too many recessive traits if it did not occur C It allows for offspring to be different from their parents D It allows the best traits to be selected out for the offspring

28. Mendel theorized that genetic traits are "independently assorted" and one trait does not depend on another for transmission to offspring. What do we know today that makes this theory invalid?

C A Genes on the same chromosome are usually transmitted together. B Chromosomes stick together and are often transmitted with each other. C The same gene may be responsible for several different traits. D Transmission of genes is random and depends on laws of probability

29. Where are genes for sex-linked traits located?

B A They can be on any chromosome B On the "Y" chromosome C On the "X" chromosome D On chromosome pair # 21

30. A white flower crossed with a red flower produces pink offspring. This is an example of incomplete dominance. If two of the pink-flowered plants are crossed, what ratio will the genotypes of the offspring have?

B A 1 RR: 3 Rr B 1 RR: 2 RR': 1 R'R' C 2 Rw: 2 Ww D 1 Rr: 2 rr: 1 ww

31. Why blood types are considered an example of codominance?

D A there are four types of blood, not two B blood type O can be donated to anyone, AB cannot C blood types A and B will both be expressed when present D there are three alleles for blood type and four types of blood

32. How many pairs of homologous chromosomes do humans have?

B A 4 B 23 C 44 D 46

33. If two different alleles are present, which allele is expressed?

B A recessive B dominant C phenotypic D pure

34. A tall pea plant (DD) and a tall pea plant (Dd) have what in common?

A A phenotype B genotype C alleles D seed color

35. In crossing homozygous dominant and homozygous recessive pea plants, Mendel noted that some genes were not seen in the F1 generation and were seen in only 25% of the F2 generation. What did he call these genes?

B A dominant B recessive C lethal D incompletely dominant

36. Continuous inbreeding (Selfing) leads

A A Homozygosity B Hetrozygosity C Both D None

37. Composite varieties are developed in crops

B A Selfpollinated B Cross pollinated C Clone D All of these

38. Broader genetic base is found in

A A Mass selaction B Pureline selection C Clonal selection D All of these

39. Effective selection can be made in

D A Pureline B Hybrid C Clone D Multilines

40. Heterosis results due to complementation between

D A Different genes B Divergent alleles C Multiple alleles D Iso - alleles

41. Pollinaton and fertilization occers before opening of flower is termed as

B A Chasmogamy B Cliestogamy C Homogamy D Hetrogamy

42. Pollens are not produced or production of sterile pollens by a plat is termed as

B A Self incompatibility B Male sterility C Inability D All of these

43. Crops are classified as Cross and self pollinated on the basis of mode of

B A Reproduction B Pollination C Growth D All of these

44. Mixture of iso-line is termed as

D A Synthetic B Composite C Pureline D Multiline

45. Vegetative embryos develops without fertilization

B A Seed B Apomixis C Monoacy D hermaphrodity

46. Female parent of world first CGMS based Pigeon pea hybrid

B A MS(P)DT B GT288A C GTR11 D GTH-1

47. CGMS system developed in the crop

B A Greengram B Pigeon pea C Garlic D termaric

48. Multiline breeding is exploited widly in the crop

A A Wheat B Cotton C Ginger D Pigeon pea

49. Hybridiztion is common in crop

B A Wheat B Cotton C Ginger D Sorghum

50. Clonal selection mostly used in the crop

C A Wheat B Cotton C Ginger D Sorghum

51. Term heterosis given by

C A Kelruter B Mendel C Shull D Borloag

52. Father of Genetics

B A Kelruter B Mendel C Shull D Borloag

53. Father of green revolution of india

A A Swaminathan B Bourloug C Raddy D Shrivastava

54. Genetic purity is maintained by

D A Roughing B Authatic seed source C Isolation D All of these

55. Progeny of breeder seed is

B A Nucleous seed B Foundation seed C Breeder Seed D Certified seed

56. Seed act formulated and anacted during

A A 1966 and 1969 B 1967 and 1970 C 1967 and 1968 D 180 and 1982

57. The standerd method of seed moisture estimation

A A Oven dry B Toulene C Moisture meter D P_2O_5

58. Seed certification in Gujarat is done by

A A GSSCA B GSSC C GCCS D GSRC

59. Color of Breeder seed certificate tag is

C A Golden red B Golden Green C Golden Yellow D Ligh Red

60. Hand pollination during commercial seed production is practiced in

C A Sorghum B Pigeonpea C Cotton D Cator

61. Protection period for field crop varieties in plant breeder's right is

B A 10 Years B 15 Years C 7 Years D 3 Years

62. UPOV Head quarter is at

B A Rome B Geneva C New York D Tokyo

63. Isolation distance in Crtified seed produ ction of Bajara is in meter

B A 100 B 150 C 200 D 50

64. Source of breeder seed is

B A Certified B Nucleous C Foundation D Registered

65. Sceientis has made sugession to maintain genetic purity of variety

C A Mendel B Shull C Horne D Borloag

66. Certified seed tag having

C A Yellow color B Red color C Blue color D White color

67. Seed prosesing refers to

C A Drying B Packing C Grading D All of these

68. Seed testing refers to

D A Purity test B Seed moisture test C Germination test D All of these

69. Varietal purity is checked by

A A Grow out test B Accelerated aging test C Tz Test D Germination test

70. The main objective of field inspection is to examine

D A Disease incidence B Isolation distance C Offtypes D All of these

71. Authority advices the central and state govt. on all matters related to seed

A A Central seed committee B Seed testing laboratory C ICAT D Agricultural University

72. The scientific manipulation of living organisms, especially at the molecular genetic level, to produce useful products. Gene splicing and use of recombinant DNA (rDNA) are major techniques used.

B A Breeding B Biotechnology C Tissueculture D Genetics

73. Pulse polio vaccine is

B A Killed virus B Live virus vaccin C Virus protiens D all

74. A virus that in- fects bacteria. Altered forms are used as vectors for cloning DNA.

D A Host B Virulent C Viroid D Bacteriophase

75. A bacterium that kills insects; a major component of the microbial pesticide industry.

B A Agrobacterium B Bacillus thuranginsis C Biokiller D Spirobacteria

76. A library composed of complementary copies of cellular mRNAs

B A Central B cDNA C Reserve D Protected

77. Usually the location in the world where the oldest cultivation of a particular crop has been identified.

D A Center of inovation B Center of research C Center of Gene D Center of origin

78. Francis Crick's seminal concept that in nature genetic information generally flows from DNA to RNA to protein.

B A Gene expiration B Central Dogma C Coding D DNA-RNA-Protien bredging

79. The central portion of the chromosome to which the spindle fibers attach during mitotic and meiotic division.

B A Nucleous B Centromere C Center D Telomere

80. A single DNA molecule, a tightly coiled strant of DNA, condensed into a compact structure in vivo by complexing with accessory histones or histone-like proteins.

D A Genome B Genepool C GenomicDNA D Chromosome

81. A DNA sequence that codes for a specific polypeptide;

A A Cistron B Gene C allel D Codon

82. An exact genetic replica of a specific gene or an entire organism.

B A Duplicate B Clone C Copy organism D Iso organism

83. Members of the pairs adenine-thymine, adenine-uracil, and guaninecytosine that have the ability to hydrogen bond to one another.

C A Nucleotide B Nucleoside C Complimentory nucleotide D Codon

84. A cell which contains genetically identical two copies of each chromosome

D A Haploid B Diploid C Triploid D Doubble haploid

85. Procedures for determining the nucleotide sequence of a DNA fragment.

C A DNA finger printing B DNA Sequencing C Replication D DNA amplification

86. The organisms in a plant population and the biotic and abiotic factors which impact on them.

A A Ecosystem B Ecology C Factor D Biom

87. A method for transforming DNA, especially useful for plant cells, in which high voltage pulses of electricity are used to open pores in cell membranes, through which foreign DNA can pass

A A Electroporation B Electrophorosis C Electrolysis D Electrodigetion

88. A haploid sex cell, egg or sperm, that contains a single copy of each chromosome.

B A Sex cell B Gamate C Zygote D Embryo

89. A locus on a chromosome that encodes a specific protein or several related proteins. It is considered the functional unit of heredity

C A Factor B Allele C Gene D Gene sheet

90. The process of producing a protein from its DNA- and mRNA-coding sequences.

D A Protein production B Ancoding C genetics D Gene expresion

91. The manipulation of an organism's genetic endowment by introducing or eliminating specific genes through modern molecular biology techniques.

D A Biotechnology B Tissue structurin C Genology D Genetic engineering

92. A linear map of the relative positions of genes along a chromosome.

A Gene map B Linkage map C Genetic code D dandogram

93. A gene or group of genes used to "mark" or track the action gene.

D A Gene to gene B allele C Action controler D **Genetic marker**

94. A category including closely related species. Interbreeding between organisms within the same category can occur.

A A Genus B Family C Kingdom D Tribe

95. An organism whose genotype is characterized by two identical alleles of a gene.

B A Hetrozygote B Homozygote C Hemizygote D Zygote

96. A chart that traces the flow of genetic information from generation to generation.

C A record B linkage C lineage D generations

97. The frequency of coinheritance of a pair of genes and/or genetic markers, which provides a measure of their physical proximity to one another on a chromosome.

A A Linkage B Map C Gene map D Pedigree

98. Determining the physical location of a gene or genetic marker on a chromosome.

C A marking B Siting C Mapping D Taging

99. DNA amplification is done in machine.

A A Thermocycler B Incubator C Hybridization oven D Electrophoresis system

100. The reduction division process by which haploid gametes and spores are formed, consisting of a single duplication of the genetic material followed by two mitotic divisions.

D A Cell division B Mitosis C Cell division D Mieosis

(8) Question Bank OF AGRICULTURAL ECONOMICS

(Note: - Bold options are answers of all the questions)

1. National markets are found for

a. Perishable goods b. Food grain

c. Durable goods d. Pulse crops

2. Regional markets are found for

a. Perishable goods **b. Food grain**

c. Durable goods d. Pulse crops

3. Short period markets are found for

a. Perishable goods b. Food grain

c. Durable goods d. Pulse crops

4. Which market is permanent in nature?

a. Short period market **b. Secular market**

c. Long period market d. None of the above

5. Food grain markets, vegetable markets, wool markets are the example of

a. Regional market **b. specialized market**

c. General market d. World market

6. A market in which there are more than two but still a few sellers of a commodity is termed as

a. an oligopsony market b. monopolistic market

c. monopoly market **d. an oligopoly market**

7. Indian farmers operate in _____ market when purchasing electricity for irrigation.

a. oligopoly **b. monopoly**

c. duopoly d. monospony

8. Transportation adds _____ utility

a. place b. time

c. possession d. form

9. The marketing function of buying and selling adds _____ utility

a. place b. time

c. possession d. form

10. _____ is the first function performed in the marketing of agricultural commodities.

a. Financing **b. Packing**

c. Grading and standardization d. Transportation

11. _____ who take title of the product with a view to making a profit.

a. Agent middlemen b. Facilitative middlemen

c. Speculative middlemen d. Merchant middlemen

12. The FCI was established in the year

a. 1955 **b. 1965**

c. 1975 d. 1935

13. A market in which there are more than two but still a few buyers of a commodity is termed as

a. an oligopsony market b. monopolistic market

c. monopoly market d. an oligopoly market

14. Regulated market committee consisting of _____ members.

a. 17 b. 27

c. 19 d. 7

15. GATT and WTO established in the year

a. 1937 &1995 **b. 1947 &1995**

c. 1937 & 1985 c. 1947 & 1985

16. The Warehousing Corporations Act came into operation on

a. 18th March, 1962 b. 18th March, 1952

c. 18th May, 1962 d. 18th March, 1972

17. Commercial banks advance up to _____ percent of the value of the produce stored in the

warehouse.

a. 65 **b. 75**

c. 80 d. 70

18. Regularly occurring upswings and downswings in prices are termed as _____fluctuations in

prices.

a. cyclical b. annual

c. seasonal d. short –term

19. _____arise due to changes in Government policies, programmes, changes in taxes and tariffs

a. Marketing risk b. Price risk

c. Trade risk **d. Institutional risks**

20. Central Agmark Lab is located at

a. Mumbai **b. Nagpur**

c. Delhi d. Faridabad

21. The Agricultural Produce (Grading and Marketing) Act was passed in the year

a. 1927 b. 1957

c. 1937 d. 1917

22. The Prevention of Food Adulteration Act was passed in the year

a. 1954 b. 1944

c. 1934 d. 1964

23. Vegetable Oil Products (Standard of Quality) Order was passed in the year

a. 1965 b. 1945

c. 1955 **d. 1975**

24. The area of operation of society is restricted to one village is called

a. PACS b. Apex bank

c. Central bank d. None

25. The statutory minimum price is announce for

a. potato b. wheat

c. sugar beet **d. sugarcane**

26. The marketed surplus is _____ to the marketable surplus for perishable commodities.

a. equal b. greater than

c. less than d. greater than or less than27. DMI headquarter is located at

a. Hyderabad b. Faisalabad

c. Faridabad d. Mumbai

28. Marketable surplus is given by

a. MS = P + C **b. MS = P – C**

c. MS = C – P d. MS = P – C / 2

29. WTO came in to effect from

a. April 1995 b. March 1995

c. December 1995 **d. January 1995**

30. Risks arise due to changes in Government policies are termed as a

a. institutional risk b. physical risk

c. price risk d. none

31. The Warehousing Corporations Act came into operation on

a. 18th April, 1962 **b. 18th March, 1962**

c. 18th January, 1962 d. 18th February, 1962

32. The first State Warehousing Corporations was set up in

a. Gujarat, 1956 b. Punjab, 1956

c. Bihar, 1956 d. Rajasthan, 1956

33. International Organization for Standardization (ISO) came into existence on

a. 25th February, 1947 b. 25th July, 1947

c. 25th January, 1947 d. 25th June, 1947

34. The Codex Alimentations Commission (CAC) was established in

a. 1973 **b. 1963**

c. 1953 d. 1983

35. _____ is not a function of marketing.

a. Processing b. Financing

c. Harvesting d. Assembling

36. _____ is considered as market lifeblood.

a. Buyers **b. Market information**

c. Sellers d. Market organization

37. What is "support price" for an agriculture commodity?

a. Subsidy paid by the government over

b. The floor price below which it can the price already available in the

marketnot be sold

c. The minimum price at which the Government is prepared to buy it

d. Money paid to agriculturists for case of draught damaging their crops

38. Which one of the following is a competitive market?

a. Perfect market b. Primary market

c. Wholesale market d. Capital market

39. Regulated market ensures

a. Procurement price b. Support price

c. Remunerative price **d. Fair price**

40. The Agricultural Price Commission was set up in the year

a. 1955 **b. 1965**

c. 1975 d. 1970

41. Codex Alimentations Commission established on

a. 1963 b. 1947

c. 1946 d. 1935

42. The Fruit Products Order, (1956) order lays down mandatory standards for

a. Fresh fruits b. Canned fruits

c. Processed fruits d. None

43. The Indian Seeds Act was passed in the year

a. 1976 b. 1956

c. 1966 d. 1986

44. NAFED was established in the year

a. November, 1958 **b. October, 1958**

c. August, 1958 d. December, 1958

45. In our state the structure of co-operative marketing is

a. one-tier system b. two-tier system

c. three-tier system d. four-tier system

46. At present the Director General of WTO is _____.

a. Pascal Lamy b. Montek Singh

c. Pranav Mukharjee d. None

47. Directorate of Marketing and Inspection established on

a. 1965 **b. 1935**

c. 1945 d. 1995

48 . Food Corporation of India established on

a. 1965 b. 1935

c. 1946 d. 1990

49 . International Organization for Standardization established on

a. 1947 b. 1945

c. 1946 d. 1990

50 . Processing adds following utility

a. Form b. Place

c. Time d. None of above

(9) Question Bank of Agricultural Meteorology

(Bold Letters indicating correct answer)

1. Solar radiation produces by which process?

a. Adiabatic process
b. **Nuclear Fusion**
c. Photoelectric effect
d. Chaos process

2. Solar energy travels to space in discrete packets of energy known as?

a. **Photon (Electromagnetic wave)**
b. Boson
c. Fermion
d. Meson

3. What is solar constant on earth?

a. 100 Langley
b. **1.94 Langley**
c. 22 Langley
d. 2.987 Langley

4. A form of energy that is emitted by all objects having a temperature above absolute zero known as?

a. Convection
b. **Radiation**
c. Conduction
d. None of these

5. What is the wavelength of visible solar radiation?

a. **400-700 nm**
b. 1000 nm
c. 100-150 nm
d. 2.13-5.0 nm

6. Which law states that a good absorber of radiation is also a good emitter under similar condition?

a. Planck's law
b. **Kirchoff's law**
c. Stefens's law
d. Weins's displacement law

7. Which one of these wavelengths has maximum energy?

a. **0-300 nm**
b. 400-430 nm
c. 1000-α nm
d. 189000 nm

8. Solar radiation measured by?

a. **Pyranometer**
b. Thermometer
c. Hygrometer
d. Barometer

9. A certain part of energy received from the sun, is reflected back to space by the earth known as?

a. Transmission
b. Absorption
c. **Albedo**
d. Conduction

10. By which process green plants and certain other organisms use the energy of light to convert carbon dioxide and water into the simple sugar glucose?

a. Transpiration
b. Detoxification
c. **Photosynthesis**
d. Respiration

11. According to which law the energy flux density of radiation from a body is a function of fourth power of its absolute temperature?

a. Planck's law
b. Kirchoff's law
c. **Stefens's law**
d. Weins's displacement law

12. The instrument able to record almost all meteorological data by desired interval at any time and any place

a. **Automatic weather station**
b. Stevenson screen

c. Ceilometer
d. Evaporimeter

13. Which instrument record the wind direction

a. Anemometer

b. **Wind Vane**

c. Thermograph

d. Barograph

14.Which instrument used for measure wind speed

a. Barometer

b. Hygrograph

c. **Anemometer**

d. Radiosonde

15. Instrument used for record atmospheric pressure

a. Luxmeter
b. **Barometer**
c. Photometer
d. Quantum Sensor

16. Relative humidity measured by

a. Solarimeter
b. **Hygrometer**
c. Pyranometer
d. Pyrgeometer

17. Evaporation measured by

a. Pyrgeometer
b. **Evaporimeter**
c. Albedometer
d. Radiosonde

18. Continuous temperature record by which instrument

a. **Thermograph**
b. Barograph

c. Hygrograph
d. Luxmeter

19. Which Instrument record temperature without contact the object

a. **Infrared thermometer**

b. Evaporimeter

c. Albedometer

d. Radiosonde

20. Combination of Dry bulb and Wet bulb thermometer used for

a. Net radiation
b. **Relative Humidity**
c. Cloud
d. Gas Composition
e.

21.Gaseous envelop surrounding the earth known as.

a. **Atmosphere**
b. Biosphere
c. Hydrosphere
d. Grid

22.In physics, an idealized object that absorbs all electromagnetic radiation falling on it known as?

a. **Black body**
b. Thermodynamics
c. Isenthalpic process
d. Entropy

23.The circulation of the atmosphere occurs due to?

a. Kinetic energy
b. Inertial frame of reference.
c. Gottfried Leibniz
d. **Thermal differences**

24. What is the height of troposphere?

a. 16-30 km
b. 30-40 km
c. **0-16 km**
d. 40-90 km

25.Which phenomena is responsible for maintaining earth's temperature for life?

a. Detoxification
b. **Green house effect**
c. Procurement
d. Assortment

26.What is the dry adiabatic lapse rate in troposphere ?

a. **6.5°C/km**
b. 10.0°C/km
c. 15.2°C/km
d. 25.0°C/km

27.In which part of atmosphere the ozone layer located?

a. Troposphere
b. Mesosphere
c. Thermosphere
d. **Stratosphere**

28. In the atmosphere, which of the following gases account for about 99.0 % percent by volume?

a. **Nitrogen, Oxygen, Carbon dioxide**
b. Hydrogen, Methane, Helium
c. Argon, Neon, Krypton
d. Methane, Helium, Xenon

29. Plants produce oxygen through

a. Respiration
b. **Photosynthesis**
c. Transportation
d. Excertion

30. Which type of gases is highly detrimental for ozone layer?

a. **Halogenated gases**
b. Liquefied gases
c. Incendiary gases
d. Ruling

31. The percentage of water vapour in atmosphere by volume?

a. **0-4%**
b. 0-10 %
c. 1-30%
d. 0-.5%

32. What is the reason, the incoming solar radiation in the form of short wave radiation but after striking the earth surface it will be converted into long wave radiation?

a. **Surface temperature**
b. Humidity
c. Cloud
d. Water

33. What is the height of atmosphere?

a. **0-500 km**
b. 0-1000 km
c. 0-4000 km
d. 0-1000000 km

34. In which part of atmosphere all types of weather phenomena occur?

a. Mesosphere
b. Stratosphere
c. **Troposphere**
d. Exosphere

35. An aggregation of minute drops of water suspended in the air at higher altitude termed as.

a. **Clouds**
b. Fog
c. Frost
d. Haze

36. Unit Okta used to record which weather phenomena

a. **Clouds**
b. Mist
c. Smog
d. Miasma

37. Imaginary line that represents the equal rainfall termed as.

a. **Isohyet**
b. Isochrome
c. Isophane
d. Isotech

38. World meteorological organization (WMO) classified the cloud in

a. 5 parts
b. 8 parts
c. 3 parts
d. **10 parts**

39. India receive maximum rainfall by

a. **South West Monsoon**
b. North East Monsoon
c. Cyclones
d. Hurricane

40. Which cloud known as rainy cloud

a. Altocumulus
b. **Cumulonimbus**
c. Cirrostratus
d. Altostratus

41. In which part of atmosphere rainy clouds are formed

a. **Troposphere**
b. Mesosphere
c. Thermosphere
d. Stratosphere

42. The process in which the water vapour is converted into its liquid termed as

a. **Condensation**
b. Concentration
c. Compression
d. Reduction

43. Name of science's branch in which, the collection and interpretation of information about a target without being in physical contact with it?

a. **Remote Sensing**
b. Quantum Mechanics
c. Astrophysics
d. Nuclear Physics

44. Satellite which move around to North Pole to South Pole known as?

a. **Polar Satellite**
b. Navigator Satellite
c. Scientific Satellite
d. Weather Satellite

45. What is the name of world first artificial satellite?

a. **Sputnik 1 (Oct 4, 1957)**
b. TIROS
c. METSAT
d. GOES

46. The 100 meter length of represent by 10 centimeter on the map called as?

a. Trim
b. **Scaling down**
c. Dapper
d. Magnitude

47. At which height the satellites move in space?

a. **36000 km**
b. 50000 km
c. 45000 km
d. 60000 km

48. Solar radiation produces by which process?

a. Adiabatic process
b. **Nuclear Fusion**
c. Photoelectric effect
d. Chaos process

49. Solar energy travels to space in discrete packets of energy known as?

a. **Photon (Electromagnetic wave)**
b. Boson
c. Fermion
d. Meson

50. Which green house gas linked with rice crop?

a. Neon

b. Xenon

c. Argon

d. Methane

51 The latent heat of condensation is released in air under the atmospheric condition of _____.

(a) Dry adiabatic lapse rate

(b) Wet adiabatic lapse rate

(c) Inversion

(d) Isothermal lapse rate

52 In stratosphere temperature increases due to absorption of _____.

(a)Ultraviolet radiation (b)V visible radiation (c) Infrared radiation

(d) Microwave radiation

53. Surface has the lowest albedo in visible radiation _____.

(a) Soil (b) Vegetation **(c)** water (d) Ice

54. Secondary circulation of atmosphere over earth's surface is called _____.

(a)Esterlies (b) Westerlies **(c)Cyclones & anticyclones** (d) Land & sea Breezes.

55. Line joining the places having equal atmosperic pressure is kmown as _____

(a) Isotherm **(b)Isobars** (c) Isohytes (d) Isonymph

56. Instantaneous physical state of atmosphere is called_____.

(a) climate (b) microclimate (c) ecoclimate **(d) weather**

57. Albedo values of agricultural field ranges between _____.

(a) 0.18- 0.27 (b) 0.29- 0.35 (c) 0.40- 0.50 (d) 0.51 – 0.65

58. Clouds types which gives the heavy and continuous precipitation ____

(a) Cumulus (b) Nimbus **(c) Cumulonimbus** (d) Stratocumulus

59. Summation of mean temperature above threshold temperature is called

(a) GDD (b) AET (c) PET (d) TUE

60. Optimum temperature for wheat crop is between ____.

(a) 10- 150^{o}C **(b) 15- 20 ^{o}C** (c) 21-26 ^{o}C (d) 26- 30 ^{o}C.

61. Distribution of radiation within plant canopy is estimated with the help of .

(a) Beer's law (b) Kirchoff's law (c) Stefan boltzman law (d)Plank's law.

62. Change of phase from solid to vapour or vice versa is known as ____.

(a) Evaporation (b) Condensation (c) Precipitation **(d) Sublimation**

63. The average sea level pressure is equal to _____.

(a) 1103 mb **(b) 1013 mb** (c) 1030 mb (d) 1003 mb

54. Heat transfer in soil takes place mainly through the process of ____.

(a) Convection (b) advection (c) radiation (d**) conduction**

65. Heat flux which remains dominant over a dry barren field is _____.

(a) Sensible (b) latent (c) ground (d) photosynthetic

10 HORTICULTURE Question Bank

Note:- (Bold options are answers of each questions)

1. Temperature required for bolting in onion is less than

(a) 15 ^{0}C (b) 20 ^{0}C

(c) 10 ^{0}C (d) 8 ^{0}C

2. Filler crops are used in which type of planting system

(a) Square (b) Hexagonal

(c) Quincunx (d) Rectangular

3. Origin of Papaya

(a) Tropical America (b) South America

(c) South Africa (d) Asia

4. Dieffenbachia is propagated through

(a) Seed (b) Grafting

(c) Cutting (d) Budding

5. Golden shower is propagated through

(a) Stem cutting **(b) vine cutting**

(c) root cutting (d) Budding

6. ***Cassia fistula*** **bears--------- flowers.**

(a) Yellow (b) orange

(c) red (d) blue

7. **Chlorosis at midrib is due to deficiency of**

(a) Mn **(b) Mg**

(c) Zn (d) Fe

8. **Which of the following is salt tolerant crop ?**

(a) Date (b) barley

(c) wheat (d) banana

9. **Mango belong to which family**

(a) Rutaceae (b) Myrtaceae

(c) Rosaceaet **(d) Anacardiaceae**

10. **TSS of jam should not be**

(a) >50 < (b) >60

(c) >70 (d) 80

11. **Which of the following is used for killing microorganisms in food**

(a) Heat processing (b) KMS

(c) Benzoic acid (d) Sugar

12. **Japanese white is a variety of**

(a) Carrot **(b) Raddish**

(c) Tomato (d) Onion

13. **Chromosome number of okra is**

(a) 130 (b) 24

(c) 28 (d) 50

14. Daria cultivation is followed in which vegetable crop

(a) Cucurbits (b) Cole crops

(c) Solanaceous crops (d) Root crops

15. Which of following is used to control downy mildew in musk melon-?

(a) Copper oxy chloride (b) Diathane Z- 78

(c) Redomil (d) ALL

16. Harvesting time for subtropical pear is

(a) Jan-Feb (b) March- April

(c) June-July (d) Sept-Oct

17. Harvesting time for strawberry is

(a) May-June (b) Sep-Oct

(c) April-May **(d) Dec-Jan**

18. Mango pulp preserved by

(a) Salt **(b) Sugar**

(c) KMS (d) Benzoic acid

19. Leading cut flower exporter in the world is

(a) USA (b) China

(c) Netherlands (d) Indian

20. A beautiful garden book is written by

(a) M.S.Randhawa (b) Chatopadhyaya

(c) J.S.Arora (d) none

21. Species name of tomato is

(a) esculentum (b) melongena

(c) tuberosum (d) sativum

22. Calcarious soils are defecient in

(a) K **(b) Ca**

(c) N (d) Na

23. Which of the following cultivar of Banana is used for chips making

(a) Nendran (b) Poovan

(c) Rasthali (d) Lal velchi

24. Which growth regulator is used to increase fruit set in tomato

(a) 2,4-D (b) NAA

(c) GA_3 (d) BA

25. Mango malformation can be controlled by application of

(a) IAA (b) ABA

(c) NAA (d) 2,4-D

26. Fruit set in mango is controlled by

(a) 2,4-D (b) IAA

(c) IBA (d) GA_3

27. Which is the serious disease of potted plants-?

(a) Root rot (b) brown spot

(c) leaf spot (d) dieback

28. Leading Mango producing state having maximum area under mango

(a) Maharasthra (b) Tamilnadu

(c) Uttar pradesh (d) Madhya pradesh

29. TSS of Tomato sauce is

(a) 20 brix **(b) 30 brix**

(c) 28 brix (d) 40 brix

30. Sweet potato is --------- crop

(a) Shallow rooted (b) deep rooted

(c) medium rooted **(d) very deep rooted**

31. Which is the serious disease of papaya ?

(a) Damping off (b) ring spot

(c) leaf curl (d) mosaic

32. Diploid variety of apple are

(a) Self sterile **(b) self fertile**

(c) self unfruitful (d) none

33. Papaya is a -------- crop

(a) Tropical (b) subtropical

(c) temperate (d) arid

34. Sapota is grown in ---------- climate

(a) Arid (b) temperate

(c) subtropical **(d) tropical**

35. Apple discolouration after cutting is due to

(a) dryning (b) heating

(c) wilting **(d) enzymes**

36. Rootstock commonly used for pear is

(a) *Pyrus pyrifolia* (b) *Pyrus communis*

(c) *Pyrus serotina* (d) all

37. Chrysanthemum is ---------- in growth habit

(a) Perennial (b) biennial

(c) Annual (d) seasonal

38. Yellow coloured rose species is

(a) R. foitida (b) R. gallica

(c) R. centifolia (d) R. indica

39. For jelly making fruit should be harvested at -------- stage

(a) Firm ripe (b) over ripe

(c) mature (d) immature

40. Mango cultivar used in high density planting in kitchen gardening is

(a) Alphonso (b) dashaheri

(c) Amarapali (d) Neelum

41. In which fruit crop micro propagation is becoming very popular

(a) Mango **(b) Banana**

(c) Guava (d) Citrus

42. Which of the following is secondary nutrient?

(a) Mg (b) Zn

(c) N (d) P

43. Economic part of knol khol is

(a) extended leaf (b) extended root

(c) extended stem (d) all

44. Which of the following is the botanical name of cauliflower?

(a) B.o.var capitata **(b) B.o.var botrytis**

(c) B.o.var caularapa (d) None

45. Which of the following is prepared from fermentation?

(a) Sauce (b) squash

(c) cider (d) jam

46. IIHR is located at

(a) New Delhi **(b) Bangalore**

(c) Varanasi (d) Lucknow

47. Whiptail of cauliflower is due to deficiency of

(a) Mo (b) Cu

(c) Zn (d) N

48. Sweet potato require how much day length for tuber formation

(a) 7 hrs (b) 9 hrs

(c) 11 hrs (d) 13 hrs

49. Bearing habit of mango is

(a) Auxillary **(b) terminal**

(c) lateral (d) none

50. Which of the following is the product of cassava?

(a) Kangi (b) nira

(c) sago (d) toddy

51. Which of the following is the richest source of vitamin A

(a) carrot (b) onion

(c) raddish (d) cucumber

52. Cashew nut ,arid almond are the richest source of

(a) fat (b) vitamin

(c) minerals (d) protein

53. *Antigonon leptopus* is propagated by

(a) Seed (b) sucker

(c) Grafting **(d) cutting**

54. Concept of lawn was developed in

(a) England (b) China

(c) Japan (d) USA

55. Seed rate for raddish is (kg/ha)

(a) 1-2 (b) 4-5

(c) 9-10 (d) 10-15

56. 20 ppm GA is used for improving fruit quality in

(a) Mango **(b) Grape**

(c) Guava (d) Citrus

57. L- 49 variety of guava was developed at

(a) Maharasthra (b) Uttar pradesh

(c) Madhya pradesh (d) Rajasthan

58. Bunchy top virus of banana spreads through

(a) Thrips **(b) aphids**

(c) bug (d) mite

59. Rosette of apple is due to deficiency of

(a) Mo (b) Cu

(c) Zn (d) Fe

60. Interveinal chlorosis and rosetting in citrus is due to deficiency of

(a) Zn (b) P

(c) Cu (d) N

61. Apple is commonly propagated through

(a) Cutting **(b) Grafting**

(c) Budding (d) Seed

62. Blossom end rot of tomato is due to deficiency of

(a) Mg (b) P

(c) Ca (d) Zn

63. Pectin is required for preparation of

(a) Guava jam **(b) apple jelly**

(c) squash (d) cider

64. Murate of potash is

(a) $KMno_4$ **(b) KCL**

(c) K_2SO_4 (d) none

65. Date palm is propagated through

(a) division (b) cutting

(c) grafting (d) layering

66. Reclamation of saline soil is done by

(a) FYM **(b) gypsum**

(c) lime (d) pot mass

67. Which rootstock is used for mandarin ?

(a) Rough lemon **(b) Rangpur lime**

(c) Karnakhatta (d) all

68. Little leaf of brinjal is caused by

(a) virus (b) bacteria

(c) mycoplasma (d) fungus

69. Which of the following is late blight resistant variety of potato?

(a) K.badshah (b) K. naveen

(c) K.jeevan (d) all

70. Early blight of tomato is due to

(a) Fungus (b) virus

(c) bacteria (d) phytoplasma

71. Which grafting is used for repairing the plant?

(a) Cleft **(b) bridge**

(c) side (d) tongue

72. Mango is propagated through

(a) Veneer grafting (b) budding

(c) layering (d) cutting

73. Pineapple is a ------- fruit

(a) climacteric **(b) non climacteric**

(c) both (d) none

74. Cassava belong to family

(a) Solanaceae **(b) Euphorbiaceae**

(c) Cucurbitaceae (d) Myrtaceae

75. Toxic substance present in colocasia is

(a) Tannin (b) Butyl-n-thalide

(c) Ca oxalate (d) all

76. Richest source of protein is

(a) Beans (b) root vegetable

(c) leafy vegetable (d) fruits

77. Cultivated pumpkin is botanically know as

(a) *Cucurbita dioca* **(b) *Cucurbita moschata***

(c) *Cucurbita maxima* (d) *Cucurbita pepo*

78. Sex is cucumber is

(a) Dioecious (b) Monocious

(c) Hermaphrodite **(d) Gynoecious**

79. Which of the process is involved in the senescence of fruits and vegetables ?

(a) Aging **(b) Respiration**

(c) Deterioration (d) None

80. The process of conversion of organic waste into useful organic manure by earthworm is called as

(a) Vermiculture (b) Decomposition

(c) Composting (d) All

81. Rose can be cultivated up to --------- years

(a) 5 (b) 7

(c) 12 (d) 20

82. What is the pit size for fruit crops

(a) 1.5 m^3 **(b) 1.0 m^3**

(c) 2.0 m^3 (d) 3.0 m^3

83. ---------- is used for flowering for pineapple

(a) NAA (b) Ethrel

(c) 2,4-D (d) All

84. Which is the commercial cultivar of Ber

(a) Mehrun (b) Gola

(c) Umran (d) Dodhia

85. Most common diseases among pome fruits is

(a) Scab **(b) Blight**

(c) Crown gall (d) Leaf curl

86. Pollination in cucumber is done by

(a) Honey bee (b) Bumble bee

(c) Ants (d) none

87. Per acre of seed rate of marigold is -------gram

(a) 200 **(b) 500-600**

(c) 1000 (d) 1500

88. Thorny fencing plant used as a hedge is

(a) *Inga dulcus* (b) *Duranta* spp

(c) *Agave* spp (d) *Hibiscus* spp

89. Kinnow is a cross between

(a) Willow leaf x King **(b) King x Willow leaf**

(c) Both (d) none

90. True type plants are obtained by --------- method of propagation

(a) sexual **(b) asexual**

(c) both (d) none of the above

91. Mango belongs to family

(a) myrtaceae (b) rosaceae

(c) rutaceae **(d) anacardiaceae**

92. Banana is propagated by

(a) sword sucker (b) seed

(c) corm (d) cutting

93. Kesar is the variety of

(a) mango (b) grape

(c) mandarin (d) apple

94. Fruit type of cucumber is

(a) capsule (b) berry

(c) pepo (d) pome

95. The term HORTICULTURE is

(a) German (b) italian

(c) latin (d) greek

96. Black tip is most common disorder of

(a) banana (b) apple

(c) citrus **(d) mango**

97. Type of inflorescence found is banana is

(a) spadix (b) receme

(c) umbel (d) cyme

98. ---------- crop/crops is / are suitable for greenhouse cultivation

(a) Sweet pepper (b) Cucumber

(c) Tomato **(d) All**

99. ---------- is the father of rose breeding

(a) Dr. B.P.Pal (b) Mukherjee

(c) Bhattachaterji (d) none

100. Bitterness in cucumber is due to ----------

(a) Glucosides (b) Acids

(c) Alkaloides **(d) Metaxenia**

12. Department of Extension Education

(Note : For each question choice No. 1 is correct answer)

1. It is 2-D visual.

   1. Poster 2. Model 3. Specimen 4. Booklet

2. It is 3-D visual.

   1. Model 2. Poster 3. Black board 4. Booklet

3. It is projected visual.

   1. Slide 2. Chart 3. Model 4. Specimen

4. It is non-projected visual.

   1. Model 2. Slide 3. Filmstrip 4. Film

5. It is projected audiovisual.

   1. Film 2. Puppet 3. Drama 4. Specimen

6. It is traditional teaching method.

   1. Drama 2. Film 3. TV 4. Fax

7. It is non-projected audiovisual.

   1. Puppet show 2. Film 3. Slide 4. Radio

8. It is mass contact method.

   1. TV 2. Letter 3. Telephone 4. Slide show

9. It is group contact method.

   1. Slide show 2. TV 3. Film 4. Drama

10. It is face-to-face contact method.

    1. Office call 2. TV 3. Film 4. Letter

11. It is personal contact method.

    1. Letter 2. TV 3. Film 4. Puppet

12. It is audio aid.

1. Radio 2. TV 3. VCR 4. Puppet

13. It is 2-D projected visual.

1. Slide 2. Model 3. Specimen 4. Film

14. It is 2-D non-projected visual.

1. Poster 2. Model 3. Specimen 4. Booklet

15. It is 2-D audio visual.

1. Film 2. Model 3. Specimen 4. Booklet

16. It is non-projected audio-visual.

1. Film 2. Model 3. Specimen 4. Puppet

17. It is non projected audio visual.

1. Drama 2. Film 3. TV 4. Lecture

18. It is useful to teach skill.

1. Method demonstration 2. Letter

3. Book 4. Poster

19. It is useful to compare two technologies.

1. Result demonstration 2. Method demonstration

3. Puppet 4. Drama

20. It is used by applying the principle of "Learning by doing" only.

1. Method demonstration 2. Puppet

3. Result demonstration 4. TV

21. It is used to improve sill, knowledge and attitude.

1. Result demonstration 2. Method demonstration

3. Radio 4. Book

22. It is process by which human behavior is modified.

1. Education 2. Motivation

3. Aim 4. Goal

23. It is the competency in using knowledge efficacy.

1. Skill 2. Knowledge 3. Attitude 4. Motivation

24. It is feelings of an individual towards or against something.

1. Attitude 2. Knowledge 3. Skill 4. Motivation

25. It is understood information possessed by a person.

1. Knowledge 2. Skill 3. Attitude 4. Motivation

26. It a body of principles underlying in a given branch of learning.

1. Philosophy 2. Principal 3. Knowledge 4. Education

27. It is a fundamental truth.

1. Principle 2. Goal 3. Aim 4. Objective

28. It is a statement of situation, objectives, problems and solutions. It is relatively permanent but requires constant revision. It forms the basis for extension plans.

1. Programme 2. Planning 3. Programme planning 4. Plan of work

29. It is a process of preparing systematic statement of the line of action for achieving certain overall and specific objectives in relation to needs and resources.

1. Planning 2. Programme 3. Aim 4. Goal

30. It is process of working with rural people in an effort to recognize the problems and determine possible solutions.

1. Programme planning 2. Planning

3. Programme 4. Plan of work

31. It is broad objective.

1. Aim 2. Objective 3. Goal 4. Planning

32. It is direction of movement.

1. Objective 2. Goal 3. Planning 4. Aim

33. It is decision to continue full use of an innovation.

1. Adoption 2. Diffusion 3. Campaign 4. Learning

34. It is the mental process through which individual passes from fires hearing about an innovation to final adoption.

1. Adoption process 2. Diffusion

3. Campaign 4. Learning

35. It is a process by which an idea or innovation spreads.

1. Diffusion 2. Adoption

3. Communication 4. Learning

36. It is an intensive teaching activity undertaken at the proper time for a brief period for focusing attention towards a particular problem, in order to stimulate the widest possible interest and action in the community.

1. Campaign 2. Diffusion 3. Adoption 4. Communication

37. A series of illustrated cards flashed before a group in proper sequence to tell a complete story step by step.

1. Flash cards 2. Folder 3. Card book 4. Album

38. It is single sheet with one or more than one fold along with detailed information on specific aspect.

1. Folder 2. Book 3. Booklet 4. Flash cards

39. It is a sheet of paper with pictorial slogan, which is utilized to attract the mass attention for single idea.

1. Poster 2. Flash card 3. Leaflet 4. Folder

40. It is real object, which is taken out of its natural settings.

1. Specimen 2. Model 3. Method demonstration 4. Result demonstration

41. It is a representative part of an original object.

1. Specimen 2. Model 3. Method demonstration 4. Result demonstration

42. It consists of two or more brief talks presenting phases of the some general topic.

1. Symposium 2. Campaign 3. Training 4. Forum

43. It is the process of arranging situations that stimulate and guide learning activities in order to bring desired changes in the behavior of the people.

1. Teaching 2. Learning 3. Communication 4. Diffusion

44. It is a process of measuring, recording, collecting, processing and communicating information to assist project management decision making.

1. Monitoring 2. Supervision 3. Evaluation 4. Reporting

45. It is the outline of the activities that the teacher follows in order to create effective learning situation.

1. Lesson plan 2. Teaching 3. Diffusion 4. Communication

46. It is disparities between present status and a desirable standard.

1. Need 2. Motivation 3. Aim 4. Planning

47. It means a person under the influence of fear, anger, etc. people may do many things that they would not do normally.

1. Emotion 2. Motivation 3. Learning 4. Behavior

48. It is define as attention with a sense of concerns focused upon some object.

1. Interest 2. Need 3. Interest 4. Conviction

49. The word Extension is derived from which root ?

1. Latin 2. Greek 3. French 4. American

50. It is a Latin word which means, "To bring up physically or mentally".

1. EDUCARE 2. EDUCERE 3. Learning 4. Need

51. It is a French word, which means, "To lead forth".

1. EDUCERE 2. EDUCARE 3. Learning 4. Need

52. It is the production of desirable changes in human behavior, in terms of knowledge, attitude and skill.

1. Education 2. Learning 3. Communication 4. Diffusion

53. It is know as formal education

1. School education 2. Adult education

3. Extension education4. Distance education

54. It is know as informal education.

1. Adult education 2. School education

3. College education 4. Education in Four walls

55. Man himself, man's environment and man created devices are the key elements of which education ?

1. Extension education2. School education

3. College education 4. Education in Four walls

56. Who initialed T & V System ?

1. Benor 2. Berlo 3. Brayne 4. Brown

57. It is central element in leaning situation.

1. Learner 2. Teacher 3. Content 4. Teaching equipment

58. It is a mental and/or physical reaction one makes through seeing.

1. Learning experience 2. Teaching

3. Leaning 4. Attention

59. It is the device used to created situation in which communication can take place between the instructor and the learner.

1. Teaching method
2. Physical facility
3. Content
4. Teacher

60. It is systematic display of models, specimens, charts, real objects and any informative materials.

1. Exhibition
2. Exhibits
3. Model
4. Chart

61. It is mass produced pictorial slogan used for creating awareness among audience for single idea.

1. Poster
2. Chart
3. Folder
4. TV

62. It is series of still picture, drawing, photographs or written materials arranged on 35 mm plastic role in such a way that information can be given to the audience step by step.

1. Film strip
2. Film
3. Slide
4. Motion picture

63. They are series of cards with illustration (pictures, figures, drawings) on the front side and useful information on the backside used to present information step by step to the group of the learners.

1. Flash cards
2. Folders
3. Book
4. Booklet

64. It is a letter produced and sends to concerned people periodically or on specific occasions.

1. Circular letter
2. E-mail
3. Pamphlet
4. Leaflet

65. It is a meeting of heterogeneous participants where information is passed for discussion or consideration for future action.

1. General meeting
2. Forum
3. Seminar
4. Symposium

66. It refers to perceived trustworthiness and expertise accorded to a source by its audience at any given time.

1. Credibility of channel
2. Treatment of channel
3. Treatment of message
4. Noise

67. Many obstructions enter in the channels of teaching are often referred as what ?

1. Noise
2. Credibility of channel
3. Treatment of channel
4. Treatment of message

68. It is a specific way adopted by the communicator to communicate his message effectively so that whole message is understood by maximum number of audience.

1. Treatment of message
2. Treatment of channel
3. Credibility of channel
4. Noise

69. It is the time required to adopt innovations from the date of its origin.

1. Over time
2. Fixed time
3. Adoption time
4. Minimum time

70. He/They is/are person/s of any social system who adopt/s innovation very first is/are known as

1. Innovator/s
2. Early adopters
3. Early majority
4. Laggards

71. The farmer who accepts new practices very last with in his social system is known as what ?

1. Laggard
2. Late majority
3. Last majority
4. Innovators

72. It is a plan of activities to be undertaken in a particular time sequence.

1. Calendar of work
2. Programme
3. Planning
4. Programme planning

73. It means imparting education to those who at their educable age did not go for formal schooling.

1. Adult Education
2. Formal Education
3. School Education
4. College Education

74. The uniformly accepted ways of acting about some social aspects of life are known as :

1. Custom
2. Norms
3. Tradition
4. Social values

75. They are uniformly accepted ways of thinking.

1. Tradition
2. Custom
3. Norms
4. Social values

76. "Etawah Pilot Project" was initiated by ...

1. Lt. Col. Albert Mayer
2. Hatch Spencer
3. Leagans
4. Mr. F.L.Brayne

77. 'Gurgaon experiment' was started by ...

1. Mr. F.L.Brayne
2. Lt. Col. Albert Mayer
3. Hatch Spencer
4. Leagans

78. Nilokheri Project was lead by whom ?

1. S.K.Dey
2. Lt.Col.Albert Mayer

3. Hatch Spencer 4. Mr. F.L.Brayne

79. It is also know as package programme.

1. IADP 2. NATP 3. HYVP 4. DPAP

80. It is the science of human behavior.

1. Psychology 2. Sociology 3. Anthropology 4. Physiology

81. It is still projected visual.

1. Slide 2. Film 3. Videocassette 4. Audio cassette

82. It is still projected visual.

1. Film strip 2. Film 3. Video cassette 4. Audio cassette

83. It is a primary co-operative society.

1. Milk co-operative society 2. AMUL

3. GROWFED 4. NABARD

84. He is the grass root extension worker in T & V System.

1. VEW 2. AEO 3. SMS 4. DAO

85. Who had recommended Panchayat Raj System ?

1. Balwant Rai Mehata Committee 2. Manmohan Singh Mehta Committee

3. S.L.Mehata Committee 4. Randhawa Committee

86. It is the year of implementation of three tiers Panchayat Raj System in Gujarat.

1. 1963 2. 1961 3. 1959 4. 1978

87. It is year of implementation of T & V System in Gujarat.

1. 1978 2. 1974 3. 1975 4. 1972

88. In e-mail, e stands of what ?

1. Electronic 2. Electric 3. Express 4. Economic

89. Which of the following is not related to extension education ?

1. Vertical teaching 2. Voluntary participation

3. Heterogeneous learners 4. Horizontal teaching

90. Which of the following is related to extension education ?

1. Informal education 2. Compulsory

3. Examination 4. Formal Education

91. It is the range within which activity displays itself.

1. Scope 2. Philosophy 3. Principle 4. Need

92. Situation, Objectives, teaching, evaluation and reconsideration are the steps of which process ?

1. Extension education process
2. Teaching process
3. Learning process
4. Communication process

93. Instructor, subject matter, teaching materials, physical facilities and learners are elements of which concept ?

1. Learning situation
2. Communication process
3. Diffusion process
4. Adoption process

94. This is the stage of acceptance leading to continued use.

1. Adoption stage
2. Evaluation stage
3. Trial stage
4. Awareness stage

95. This is useful particularly in showing trends and relationship.

1. Line chart
2. Pictorial graph
3. Flip chart
4. Pie chart

96. This is a letter, which reproduced and sent with the same information to many people.

1. Circular letter
2. Handbill
3. Leaflet
4. Personal letter

97. How many steps are there in extension teaching ?

1. Six
2. Four
3. Seven
4. Five

98. Attention, interest, desire, conviction, action and satisfaction are the steps of which process ?

1. Extension teaching
2. Adoption
3. Communication
4. Extension education process

99. Man himself, man's environment and man created devices are the elements of which of the following ?

1. Education
2. Communication
3. Diffusion
4. None of these

100. It is an example of social need.

1. Belongingness
2. Food
3. Clothing
4. Housing

101. It is last step in the programme planning process.

1. Reconsideration
2. Evaluation
3. Adoption
4. Carrying out the plan

102. It helps to establish 'Bench mark'.

1. Evaluation 2. Programme 3. Planning 4. Programme planning

103. It is goal directed and need satisfying behavior. It influences a person to do a thing in a certain way.

1. Motivation 2. Objective 3. Desire 4. Interest

104. His theory is being called the "conditional response theory of learning".

1. Pavlov 2. Waston 3. Skinner 4. Thorndike

105. It is a method of selection for local leader.

1. Sociometry 2. Pedagogy 3. Androgogy 4. Sociology

106. Child education is known as :

1. Pedagogy 2. Andragogy

3. Informal education 4. Out of school education

107. Adult education is known as :

1. Androgogy 2. Pedagogy 3. Formal education 4. College education