

**APPROVED**

Anil rana  
www.k844gr.weebly.com

16P/202/2 Set No. 2

**No. of Questions : 120**

**Time : 2 Hours**

**Full Marks : 360**

- Note :**
- (1) Attempt as many questions as you can. Each question carries **3** marks. **One** mark will be deducted for each incorrect answer. Zero mark will be awarded for each unattempted question.
  - (2) If more than one alternative answers seem to be approximate to the correct answer, choose the closest one.

1. Which is a symbiotic nitrogen fixer in soil?

- (1) Cyanobacteria                      (2) Azospirillum  
(3) Nitrobactor                      ✓ (4) Rhizobia

①

2. The most important microflora in decomposition of organic matter and plant nutrients availability in soil is

- ✓ (1) bacteria                      (2) fungi                      (3) actinomycetes (4) algae

②

3. The secondary nutrient element required for plant growth is

- (1) zinc                      (2) iron                      ✓ (3) sulphur                      (4) copper

③

175)

1

(P.T.O.)

4. Which of the following is a high analysis fertilizer?

- (1) Triple superphosphate (2) Nitrophosphate ~~X~~  
(3) Single superphosphate (4) Ammonium polyphosphate

5. The optimum N:P:K ratio for balanced fertilizer use in most of the crops is the order of

- (1) 4:4:2 (2) 4:2:1 (3) 6:4:2 (4) 6:2:1

6. Among the following fertilizers which contains the highest percentage nitrogen?

- (1) Urea (2) Ammonium sulphate  
(3) Ammonium chloride (4) Calcium ammonium nitrate

7. A soil has a gravimetric moisture content 18 p.c. and bulk density  $1.5 \text{ Mg/m}^3$ . The volumetric moisture content of the soil is

- (1) 24 p.c. (2) 27 p.c. (3) 30 p.c. (4) 33 p.c.

8. Moisture retained in soil at 15 bar soil moisture tension is called

- (1) field capacity moisture (2) wilting point moisture  
(3) available soil moisture (4) hygroscopic moisture

9. Which soil can be reclaimed best by application of gypsum?

- (1) Saline soil (2) Saline-alkali soil  
(3) Alkali soil (4) Acid soil

10. Montmorillonitic clay minerals are predominant in

- (1) alluvial soil (2) red soil (3) laterite soil (4) black soil

black  
soil

1

11. In India largest area of land degradation has occurred due to

- (1) water erosion (2) wind erosion  
(3) water logging (4) salinity

1

12. Soils of Indo Gangetic Plains have developed from the parent material

- (1) igneous rock (2) alluvium  
(3) metamorphic rocks (4) basalt

13. Which of the following belongs to Flavr Savr a transgenic fruit?

- (1) Papaya (2) Avocado (3) Tomato (4) Mandarin

1

14. How many ATP are consumed/utilised in glycolysis?

- (1) 1 ATP (2) 2 ATP (3) 3 ATP (4) 0 ATP

1

15. Which of the following is a non-essential amino acid?

- (1) Alanine (2) Leucine (3) Histidine (4) Valine

TV MILLPATH

1

16. Identify the sugar with four carbon atoms

- (1) erythrose (2) xylose (3) ribose (4) heptose

1

17. Which form of nitrogen is mostly taken by plant?  
(1) Ammonia  
(2) Nitrate  
(3) Nitrite  
(4) Molecular nitrogen
18. Which scientist postulated the theory of pressure flow for solute transport in plants?  
(1) De Vries  
(2) Curtis  
(3) Miller  
(4) Munch
19. Who developed the Avena Coleoptile Test for auxin bioassay?  
(1) K. V. Thimann  
(2) F. W. Went  
(3) F. B. Salisbury  
(4) A. C. Leopold
20. Identify the plant in which stomata open during night  
(1) sorghum  
(2) apple  
(3) linseed  
(4) pineapple
21. What is the oxygen level in atmosphere?  
(1) 12%  
(2) 21%  
(3) 36%  
(4) 41%
22. Which of the following is first product of photosynthesis in sugarcane?  
(1) Phosphoglyceric acid  
(2) Glyceric acid  
(3) Oxalic acid  
(4) Oxaloacetic acid
23. Identify the non-essential mineral nutrient in plant  
(1) chlorine  
(2) copper  
(3) chromium  
(4) zinc

24. Which of the following is accessory pigment for photosynthesis?

- (1) Phytochrome (2) Cytochrome  
~~(3) Chlorophyll~~ (4) Xanthophyll

(1)

?  
Dough  
Firm

25. Organism used in preparation of vermicompost is

- (1) azotobacter (2) actinomycetes  
 (3) rhizobium sps (4) eisenia foetida

(1)

26. Economy in nitrogen fertilizer use in paddy crop be made by the use of

- (1) azotobacterin (2) rhizobium culture  
~~(3) blue-green algae~~ (4) phosphobacterin

(1)

27. Most sensitive crop to poor soil aeration is

- (1) maize (2) wheat (3) tobacco (4) sugarcane

(1)

28. At which crop stage soil moisture stress is most harmful in groundnut crop?

- (1) Early growth (2) Pegging  
 (3) Maturity (4) Nut formation

(1)

29. Wind erosion is common in the State of

- (1) W. Bengal (2) Rajasthan  
 (3) Karnataka (4) Andhra Pradesh

(1)

30. Most critical stage for one irrigation in wheat is

- (1) dough (2) grand period of growth  
 (3) CRI (4) tillering, stage

31. Predominant ion in acidic soil is

- (1)  $\text{Ca}^{++}$  (2)  $\text{Mg}^+$   (3)  $\text{H}^+$  (4)  $\text{Na}^+$

32. Most effective weedicide for control of Phalaris minor weed plant in wheat is

- (1) butachlor (2) isoproturon (3) atrazine (4) 2, 4-D

33. Which plant nutrient-ion is lost by leaching the most?

- (1)  $\text{K}^+$  (2)  $\text{NH}_4^+$   (3)  $\text{NO}_3^-$  (4)  $\text{H}_2\text{PO}_4^-$

34. Water lost from the soil during the crop life cycle is termed as

- (1) metabolic  (2) conjunctive (3) transpiration (4) evaporative loss

35. Suitable soil bulk-density for normal crop growth is

- (1)  $1.7 \text{ gm/cm}^3$  (2)  $1.5 \text{ gm/cm}^3$   (3)  $1.3 \text{ gm/cm}^3$  (4)  $>1.8 \text{ gm/cm}^3$

36. India lies in the latitudinal range of

- (1)  $8^\circ \text{ N}-36^\circ \text{ N}$  (2)  $4^\circ \text{ N}-12^\circ \text{ N}$  (3)  $13^\circ \text{ N}-24^\circ \text{ N}$  (4)  $15^\circ \text{ N}-30^\circ \text{ N}$

37. Weeping Jelly is caused by

- (1) excess of acid (2) excess of sugar  
(3) excess of water (4) excess of pectine

38. Andromonoecious flowers are found in

- (1) bottle gourd (2) bitter gourd (3) ridge gourd (4) muskmelon

39. Aonla flowers in the month of

- (1) April (2) May (3) June (4) July

40. Parents of 'Amrapali' mango are

- (1) Dashehari × Neelam (2) Neelam × Dashehari  
(3) Langra × Neelam (4) Neelam × Langra

41. Which of the following crops is summer dormant?

- (1) Aonla (2) Pomegranate (3) Ber (4) Phalsa

42. Aroma in the ripe fruit of apple is due to

- (1) hexanol (2) eugenol  
(3) isopentanol (4) ethyl-2-methyl butyrate

43. 'Pusa Early Dwarf' is a variety of

- (1) apple (2) strawberry (3) guava (4) grape

44. Bronzing in guava is associated with the deficiency of  
✓(1) Zn (2) Mn (3) Mg (4) Cu
45. 'Pusa Narangi' is a variety of  
(1) citrus ✓(2) marigold (3) gladiolus (4) tuberose
46. Running water is main feature of  
(1) Japanese garden (2) Rose garden  
✓(3) Mughal garden (4) Rock garden
47. Ethylene during transportation of flowers causes  
(1) bent neck (2) calyx splitting  
(3) culorosis ✓(4) sleepiness
48. The combination of fruit and flower arrangement is called  
(1) Morimana (2) Moribana (3) Zen-ei-bana (4) Jiyubana
49. Iodine value of Ghee measures  
(1) saturated fatty acid linkage ✓(2) unsaturated fatty acid linkage  
(3) volatile water soluble fatty acids (4) volatile water insoluble fatty acids
50. Inadequate homogenization of ice cream mix may result is a texture defect known as  
✓(1) sandy (2) buttery (3) icy (4) coarse





59. The titratable acidity in fresh cow milk is

- X (1) 0.10%      ~~(2) 0.15%~~      (3) 0.17%      (4) 0.20%

60. As per PFA except Odisha and Punjab the fat in cow milk should not be than \_\_\_\_\_ in whole of India.

- X (1) ~~3.0%~~      (2) 3.5%      (3) 4.0%      (4) 4.5%

61. Piercing and sucking type of mouth parts are found in

- (1) grasshopper      (2) housefly      (3) aphids      (4) beetles

62. Out of the following poisons which works as an anticoagulant for the control rats?

- X ~~(1) Zinc phosphide~~      (2) Strychnine  
(3) Warfarin      (4) Parathion

63. If equilibrium population level of a crop damaging insect is above the economic injury level, it is a

- (1) potential pest      (2) not a pest  
(3) sporadic pest      (4) regular pest

64. Giving complete coverage to one hectare of crop by spraying 60 to 250 litres liquid is known as

- (1) low volume spray      (2) very low volume spray  
(3) medium volume spray      (4) high volume spray

65. A typical 'Hopper burn' in rice is caused by feeding of  
 (1) aphids (2) gundhi bug  
 (3) brown plant hopper (4) mites
66. Which of the following is pest of apple?  
 (1) *Sylepta lunalis* (2) *Nodostoma subcostatum*  
 (3) *Cydia hemidoxa* (4) *Erisoma lanigerum*
67. Which of the fly is pest of cotton?  
 (1) Fruit fly (2) Whitefly (3) Stem fly (4) Sawfly
68. The density of pest population at which control measures should be applied  
 (1) GEL (2) PBL (3) EIL (4) ETL
69. Most of the insects have abdominal segments  
 (1) 6 to 7 (2) 8 to 9 (3) 10 to 11 (4) 12 to 13
70. Who for the first time studied Indian insect type?  
 (1) Linnaeus (2) Koenig (3) Fabricius (4) Lefory
71. *Heliothis armigera* is  
 (1) Monophagous (2) oligophagous  
 (3) Polyphagous (4) saprophyte

72. Cucurbits in early stage are mainly damaged by

- (1) Aphids
- (2) Jassids
- (3) Borers
- (4) red pumpkin beetle

(173)

73. An example of gram +ve bacterium is

- (1) *Erwinia*
- (2) *Pseudomonas*
- (3) *Xanthomonas*
- (4) *Clavibacter*

(1)

74. An example of internally seed borne disease is

- (1) loose smut of wheat
- (2) rust of wheat
- (3) rust of groundnut
- (4) covered smut of wheat

(1)

75. Irish famine was due to

- (1) early blight of potato
- (2) bacterial blight of potato
- (3) brown spot of rice
- (4) late blight of potato

(1)

76. Thiram is a

- (1) copper fungicide
- (2) mercury fungicide
- (3) sulphur fungicide
- (4) sodium fungicide

(1)

77. Sterility mosaic of Arhar is transmitted by

- (1) whitefly
- (2) apid
- (3) leafhopper
- (4) eriophyid mite

(1)

78. The disease cycle of wheat rust in India was discovered by  
 (1) K. C. Mehta    (2) E. J. Butler    (3) R. Prasad    (4) R. S. Singh

79. Bicelled teliospores are produced in the genus  
 (1) *Uromyces*    (2) *Puccinia*    (3) *Melampsora*    (4) *Ustilago*

80. Destructive Insect and Pest Act was passed during the year  
 (1) 1914    (2) 1946    (3) 1917    (4) 1956

81. Gene for gene hypothesis was given by  
 (1) A. F. Blakeslee    (2) E. C. Stakman  
 (3) Van der Plank    (4) H. H. Fbr

82. Conidia are arranged in acropetal succession in chain  
 (1) *Alternaria*    (2) *Aspergillus*    (3) *Albugo*    (4) *Fusarium*

83. Bordeaux mixture was discovered by  
 (1) H. A. deBary    (2) M. Tillet  
 (3) P. M. A. Millardet    (4) E. J. Butler

84. An ability of a pathogen to cause a disease is known as  
 (1) pathogenesis    (2) pathogenicity  
 (3) pathometry    (4) pathology

85. Extension education process involves

- (1) six elements (2) four elements  
(3) five elements (4) seven elements

86. Community development will become holistic only when

- (1) Government comes out with excellent programmes  
(2) people take active part in the implementation of the programmes  
(3) non-Governmental organisations are active in the community  
(4) Governmental efforts are united with people's efforts

87. We tend to remember \_\_\_\_\_ per cent of what we see and hear.

- (1) 60 per cent (2) 70 per cent (3) 90 per cent (4) 50 per cent

88. Communication process is stabilized by

- (1) empathy (2) credibility (3) feedback (4) feed front

89. Frequency of adopters when plotted over time, the curve follows

- (1) normal curve (2) skewed curve  
(3) curvilinear curve (4) nonlinear curve

90. Logical sequence of steps in extension teaching include

- (1) AICDAS (2) CADICS (3) AISCAD (4) AIDCAS

91. The term 'entrepreneur' is derived from  
 (1) Latin word (2) Greek word (3) French word (4) Chinese word
92. Ratan Tata is an example of  
 (1) mobile entrepreneur (2) managerial entrepreneur  
 (3) innovative entrepreneur (4) empire builder 1
93. Extension teaching is  
 (1) vertical (2) parallel ~~(3) horizontal~~ (4) circular 1
94. Extension method that is used to stimulate large scale acceptance/adoption of an improved practice/technology in shortest possible time  
 (1) demonstration (2) campaign X  
 (3) training (4) workshop
95. Servants of India Society, Pune was initiated by  
 (1) Gopal Krishna Gokhale (2) Col. Shitole  
 (3) Albert Mayor (4) Mahatma Gandhi
96. When I develop feeling that "The culture I accept and follow is superior to others", I am  
 (1) geocentric (2) culture centric d  
 (3) ethnocentric (4) sociocentric

97. Aneuploidy arising through loss of chromosomes is termed as  
(1) Hypoploidy (2) Nanoploidy (3) Lethoploidy (4) Aploidy

98. DNA transcribes to

(1) rRNA (2) tRNA (3) mRNA (4) hnRNA

99. Complementary interaction of genes gives the ratio

(1) 13:3 (2) 15:1 (3) 9:7 (4) 1:1

100. The bacterium used in natural genetic engineering is

(1) *Rhizobium* (2) *Agrobacterium*  
(3) *Streptococcus* (4) *Micrococcus*

101. Exchanges between non-homologous sets of chromosomes are

(1) recombinations (2) inversions  
(3) translocations (4) transductions

102. Quantitative inheritance is through

(1) effective genes (2) special genes  
(3) polygenes (4) ultragenes

103. Who discovered transposons?

(1) Har Gobind Khorana (2) Morgan  
(3) Hugo de Vries (4) Barbara McClintock



104. The functional unit of gene is  
 (1) muton (2) recon (3) cistron (4) retron (1)
105. Double monosomy has a general formula  
 (1)  $2n-1$  (2)  $2n-1-1$  (3)  $2n-2$  (4)  $2n-2-2$  (1)
106. When one gene specifies more traits, it is  
 (1) pleiotropism (2) atavism (3) polytropism (4) dwarfism (X)
107. The penetrance is  
 (1) insertion of gene (2) elimination of gene  
 (3) ability of a gene to express (4) incomplete expression of gene
108. Alleles are  
 (1) alternative forms of gene (2) false forms of gene (1)  
 (3) extra forms of gene (4) defective gene
109. Net National Product at factor cost is computed by  
 (1) Gross National Product at factor cost - Depreciation - Indirect taxes + Subsidies  
 (2) Gross National Product at factor cost + Depreciation - Indirect taxes + Subsidies (X)  
 (3) Gross National Product at factor cost - Depreciation + Indirect taxes + Subsidies  
 (4) Gross National Product at factor cost - Depreciation - Indirect taxes - Subsidies

110. Inductive method of economic investigation was adopted by

- (1) Historical School of Economists of Germany
- (2) Classical Economists
- (3) Neo-Classical Economists
- (4) Keynes



111. Which of the following statements is correct?

- (1) In perfect competition,  $MC = MR = Price$
- (2) In monopoly,  $MC$  cuts  $MR$  and greater than  $AR$
- (3) In perfect competition,  $MC$  cuts  $MR$  and  $< AR$
- (4) In monopoly,  $AR < MR < MC$

112. If 3% change in price of the commodity leads to 15% change in quantity demanded, then elasticity of demand for that commodity is

- (1) 0.5
- (2) 5.0
- (3) 0.2
- (4) 0.4

113. Which of the following is correct?

- (1) An increase in demand is same as extension of demand
- (2) An increase in demand is not the same as extension of demand
- (3) An increase in demand is less compared to extension of demand
- (4) An increase in demand is more compared to extension of demand

114. Indifference curves are those which
- (1) are circular in shape
  - (2) are concave in shape
  - (3) does not intersect each other.
  - (4) always touches both X and Y axes
115. Rent, wages, interest and profit are related to the term
- (1) production
  - (2) consumption
  - (3) exchange
  - (4) distribution
116. Development of farm sector gives a boost to secondary sector and development of both primary and secondary sectors give a boost to tertiary sector. This is called the product contribution of agriculture. This concept was coined by
- (1) Ragnar Frisch
  - (2) Adam Smith
  - (3) J. M. Keynes
  - (4) Simon Kuznets
117. Economists use the term money to refer to
- (1) those types of wealth that are regularly accepted by sellers in exchange for goods and services
  - (2) all assets, including real assets and financial assets
  - (3) all financial assets, but real assets are not regarded as money
  - (4) all wealth

118. For an economy as a whole, income must equal expenditure because
- (1) every rupee of spending by some buyer is a rupee of income for some seller
  - (2) International Law requires that income equal expenditure
  - (3) the number of firms is equal to the number of households in an economy
  - (4) every rupee of saving by some consumer is a rupee of spending by another consumer

119. The law of diminishing returns in wheat production occurs when

- (1) total input usage starts to increase
- (2) total yield starts to decline
- (3) marginal yield starts to decrease
- (4) average yield starts to decrease

120. A bank has excess reserves to lend but is unable to find anyone to borrow money. This will ——— the size of the money multiplier.

- (1) reduce
- (2) increase
- (3) have no effect on
- (4) double

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