

DO NOT OPEN THIS QUESTION BOOKLET UNTIL YOU ARE ASKED TO DO SO

01/2008

Question Booklet Series

**QUESTION BOOKLET
AGRICULTURE, AGRICULTURAL MARKETING,
CO-OPERATION AND SERICULTURE**



Time Allowed : Two Hours

Maximum Marks : 300

INSTRUCTIONS

1. Immediately after the commencement of the Examination, you should check that this Question Booklet does NOT have any unprinted or torn or missing pages or items etc. If so, get it replaced by a complete 'Question Booklet' of the same series.
2. Write and encode clearly the Question Booklet Series A, B, C or D, as the case may be, in the appropriate space provided for the purpose, in the Answer Sheet/Response Sheet.
3. You have to enter your Register Number in the Question Booklet in the box provided alongside. **DO NOT** write anything else on the Question Booklet. **Register Number**
4. This Question Booklet contains **120** items (questions). Each item contains **four** responses (answers). Select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE RESPONSE** for each item.
5. All the responses should be marked **ONLY** on the separate Answer Sheet provided and **ONLY** in Black or Blue Ballpoint Pen. See instructions in the Answer Sheet.
6. All items carry equal marks. **Attempt all items.** Your total marks will depend only on the number of correct responses marked by you in the Answer Sheet.
7. Before proceeding to mark the responses in the Answer Sheet, you have to write and encode particulars regarding Question Booklet Series, Venue Code, Centre Code, Register Number, Subject and Subject Code (along with your signature and Invigilator's signature) in the space provided for in the Answer Sheet, as per details in the Admission Ticket and "Information Booklet" provided to you.
8. Sheets for rough work are appended in the Question Booklet at the end. You should not make any marking on any other part of the Question Booklet.
9. Immediately after the final bell indicating the conclusion of the examination, stop making any further markings in the Answer Sheet. Be seated till the Answer Sheets are collected and accounted for by the Invigilator.
10. Items are printed both in Kannada and English. If any confusion arises in the Kannada Version, please refer to the English Version of the items.
11. Use of calculators of any kind is **not** permitted.
12. No marking should be made on the Bar Codes appearing in the Answer Sheet.

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గಮನಿ : ಸಂಚಾರ ಕ್ಷೇತ್ರ ಅಳ್ವಿಕೆಯ ಈ ಪತ್ರ ಮುಕ್ತ ಮಾರ್ಪಿನಲ್ಲಿ ಮಾಡಿ ಸ್ವೀಕೃತ.



1. Match the cell organelles with their function

a) Chloroplasts	1) Protein synthesis
b) Mitochondria	2) Photosynthesis
c) Ribosomes	3) Digestive enzymes
d) Golgi bodies	4) Cellular respiration
e) Lysomes	5) Packaging of food material

a	b	c	d	e	
(1)	1	2	3	4	5
(2)	2	4	1	5	3
(3)	2	1	4	3	5
(4)	1	3	4	2	5

2. In meiosis, sequence of sub-stages of prophase-I are

- Leptotene, Diplotene, Zygote, Pachytene, Diakinesis
- Leptotene, Zygote, Pachytene, Diplotene, Diakinesis
- Leptotene, Pachytene, Zygote, Diakinesis, Diplotene
- Zygote, Leptotene, Pachytene, Diplotene, Diakinesis

3. Translocation leads to exchange of segments between

- Homologous chromosomes
- Non-homologous chromosomes
- Sister chromosomes
- Acrocentric fragments

4. In recessive epistasis, in F_2 the phenotype ratio of 9:3:3:1 is modified to

(1) 9:3:4	(2) 9:7
(3) 12:3:1	(4) 15:1

5. The term polygenes was first used by

- R.A. Fisher (1918)
- Sewall Wright (1935)
- K. Mather (1941)
- D. S. Falconer (1960)

6. Match the scientists with their discoveries

a) Landsteiner (1900)	1) Jumping genes
b) Benzer (1955)	2) ABO blood group in man
c) McClintock (1950)	3) Term gene
d) Johannsen (1909)	4) Term reon, muton and cistron

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

7. When the value of fitness is unity ($W = 1$) then there would be

- 1 percent survival
- 10 percent survival
- 50 percent survival
- 100 percent survival

8. Match the information of Group A with that of Group B

Group A	Group B
a) Homozygous- Homogenous population	1) Centripetal selection
b) Homozygous- Heterogenous population	2) Synthetics
c) Heterozygous- Homozygous population	3) Multilines
d) Heterozygous- Heterogenous population	4) Pure lines
e) Stabilizing selection	5) F_1 Hybrids

a b c d e

(1) 4 5 3 2 1
 (2) 3 5 4 1 2
 (3) 3 1 5 4 2
 (4) 4 3 5 2 1

9. Ability of plants to maintain a favourable internal water balance under moisture stress is known as

(1) Drought escape
 (2) Drought tolerance
 (3) Drought avoidance
 (4) Drought hardening

10. Match the information of Group A with that of Group B

Group A	Group B
a) Tetrazolium test	1) Test of genetic purity
b) Grow out test	2) Test of seed viability
c) Breeder seed	3) Initial seed of a variety
d) Nucleus seed	4) Progeny of Nucleus seed
e) Foundation seed	5) Progeny of a breeder seed

a b c d e
 (1) 2 1 3 4 5
 (2) 1 2 4 5 3
 (3) 2 1 4 3 5
 (4) 1 2 3 4 5

11. Match the information of Group A with that of Group B

Group A	Group B
a) <i>Nilaparvata lugens</i>	1) Green leaf hopper
b) <i>Nephrotettix virescens</i>	2) Brown plant hopper
c) <i>Leptocoris oratoria</i>	3) Paddy hispa
d) <i>Dicladispa armigera</i>	4) Gundhi bug
e) <i>Nymphula depunctalis</i>	5) Case worm

a b c d e
 (1) 3 1 4 5 2
 (2) 3 4 1 5 2
 (3) 2 1 3 4 5
 (4) 2 1 4 3 5

12. Identify the item which do not match with others

- (1) Monocrotophos
- (2) Dicofol
- (3) Phosalone
- (4) Zinc phosphide

13. The scientific name of Pink bollworm of cotton is

- (1) *Helicoverpa armigera*
- (2) *Earias vittella*
- (3) *Pectiniphora gossypiella*
- (4) *Amarsca biguttula biguttula*

14. "Rosetting" of flowers in cotton is characteristic feature produced by infestation of

- (1) American bollworm
- (2) Pink bollworm
- (3) Tobacco bollworm
- (4) Spotted bollworm

15. Match the information of Group A with that of Group B

Group A	Group B
a) Carbofuran	1) Kelthane
b) Dicofol	2) Thiodan
c) Quinolophos	3) Diafuran
d) Monocrotophos	4) Ekalux
e) Endosulfan	5) Nuvacron

a b c d e

- (1) 2 4 3 1 5
- (2) 2 3 4 5 1
- (3) 3 1 4 5 2
- (4) 3 4 5 2 1

16. The cry gene in Bollgard II is

- (1) Cry 1 Ac
- (2) Cry 2 Ac
- (3) Cry 1 Ab
- (4) Cry 2 Ab

17. Fenvalerate is an

- (1) Organo phosphorous compound
- (2) Organocarbamate compound
- (3) Pyrethroid
- (4) Coumarin

18. Match the information of Group A with that of Group B

Group A	Group B
a) Sorghum	1) <i>Leucinodes orbanalis</i>
b) Tur	2) <i>Nilaparvata lugens</i>
c) Brinjal	3) <i>Plutella xylostella</i>
d) Rice	4) <i>Atherigona soccata Rondai</i>
e) Cabbage	5) <i>Melanagromyza obtusa</i>

a b c d e

- (1) 4 5 2 1 3
- (2) 4 5 1 2 3
- (3) 2 5 4 3 1
- (4) 5 2 3 4 1

19. "Kresek" symptom is observed in which crop ?

- (1) Wheat
- (2) Maize
- (3) Paddy
- (4) Bhindi

29. Match the items of Group A with that of Group B

Group A	Group B
a) Most resistant to weathering	1) Igneous rocks
b) Least resistant to weathering	2) Feldspar
c) Most dominant mineral	3) Metamorphic rocks
d) Granite and basalt are type of	4) Quartz
e) Gneiss and marble are type of	5) Calcite

a	b	c	d	e
(1) 4	2	5	3	1
(2) 2	5	4	1	3
(3) 5	4	7	3	1
(4) 4	5	2	1	3

30. C:N ratio of FYM is

(1) 10:1 (2) 100:1
(3) 1000:1 (4) 20:1

31. Agronomic measures are used to reduce erosion where the slope is

(1) More than 2%
(2) Less than 2%
(3) More than 5%
(4) Less than 5%

32. Pick the odd item from the list

(1) Parallel cropping
(2) Multistoreyed cropping
(3) Companion cropping
(4) Relay cropping

33. Dockage is

(1) Purity percentage
(2) Impurity percentage
(3) Viability percentage
(4) Germination percentage

34. Formula for calculating the cropping intensity is

$$(1) CI = \frac{\text{Total cropped area}}{\text{Net cultivated area}} \times 100$$

$$(2) CI = \frac{\text{Net cultivated area}}{\text{Total cropped yield}} \times 100$$

$$(3) CI = \frac{\text{Net area}}{\text{Total area}} \times 100$$

$$(4) CI = \frac{\text{Area under multiple crop}}{\text{Total area sown}} \times 100$$

35. Maturity period for "Adsali planting of sugarcane" is

(1) 12 months
(2) 10 months
(3) 16 months
(4) 18 months

36. Choose the correct combination

- (1) Substituted urea – Linuron
- (2) Carbamates – Atratone
- (3) S-Triazines – Sultan
- (4) Phenoxy acids – Dalapon

37. Choose the odd entry from the list of maize entries

- (1) Vijay
- (2) Kisan
- (3) Vikram
- (4) Deccan

38. Practice of growing two or more crops one after another on the same piece of land during a fixed period of time.

- (1) Mixed farming
- (2) Multi-storeyed cropping
- (3) Multiple cropping
- (4) Relay cropping

39. The formula for calculating the soil moisture content by gravimetric method is

- (1) $\frac{W_1 - W_2}{W_1} \times 100$
- (2) $\frac{W_2 - W_1}{W_2} \times 100$
- (3) $\frac{W_2 - W_1}{W_1} \times 100$
- (4) $\frac{W_1 - W_2}{W_2} \times 100$

40. Choose the correct combination from the group of weedicides

Chemical class	Name of Herbicide
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(1) Nitrogen compounds	– Trifluron
(2) Acid derivatives	– Paraquat
(3) Heterocycles	– Diallate
(4) Carbamic acid esters	– Basalin

41. *Cynodon dactylon* is called as

- (1) Nut grass
- (2) Bermuda grass
- (3) Crab grass
- (4) Barnyard grass

42. Noble cane in sugarcane is referred to

- (1) *Saccharum barberi*
- (2) *Saccharum spontanum*
- (3) *Saccharum chinensis*
- (4) *Saccharum officinarum*

43. Which one of the following is **not** a system of farming ?

- (1) Mixed farming
- (2) Co-operative farming
- (3) Co-operative collective farming
- (4) Peasant farming

44. Basic fundamental law of agriculture is
 (1) Law of equi-marginal return
 (2) Law of substitution
 (3) Law of diminishing return
 (4) Law of demand and supply

45. The Apex organization for marketing co-operative societies at the National level is
 (1) FCI (2) NAFED
 (3) NCCF (4) NABARD

46. NABARD was established on
 (1) July, 1982 (2) July, 1992
 (3) June, 1981 (4) July, 1983

47. The formula to calculate the rate of capital turnover is

(1) $\frac{\text{Total farm assets}}{\text{Net farm income}} \times 100$

(2) $\frac{\text{Gross income}}{\text{Total farm assets}} \times 100$

(3) $\frac{\text{Net income}}{\text{Total farm assets}} \times 100$

(4) $\frac{\text{Net farm income}}{\text{Gross income}} \times 100$

48. Yellow discolouration in 'V' shape from tip backward on lower leaves of corn plant shows
 (1) Nitrogen deficiency
 (2) Magnesium deficiency
 (3) Zinc deficiency
 (4) Copper deficiency

49. The first stable product of Calvin Cycle is
 (1) Ribulose 1, 5-diphosphate
 (2) 3-phosphoglyceric acid
 (3) Oxaloacetic acid
 (4) Phosphoenol pyruvate

50. While measuring the soil moisture content "free water" refers to
 (1) Hygroscopic water
 (2) Gravitational water
 (3) Capillary water
 (4) Surface water

51. One male papaya tree is sufficient for
 (1) 10-20 female trees
 (2) 5-10 female trees
 (3) 25-30 female trees
 (4) 35 female trees

52. 'California wonder', 'Yellow wonder', 'NP-464' are varieties of
 (1) Sweet pepper (2) Brinjal
 (3) Tomato (4) Cucumber

53. Black tip of mango is due to
 (1) A bacterium
 (2) A fungus
 (3) A virus
 (4) Toxic gases of brick kilns

54. Our national policy formulating body for rural development programmes is presided over by
 (1) Prime Minister of India
 (2) Chairman, Planning Commission
 (3) Agriculture Minister
 (4) President of India



55. Bulletins, leaflets, circulars, letters, posters, fairs, exhibitions, radio and television are the media of
(1) Mass communication
(2) Group communication
(3) Public communication
(4) Individual communication

56. Written form of extension teaching methods does **not** include
(1) Bulletins
(2) Letters, folders, news articles
(3) Personal letters, circular letters
(4) Telephone and office calls

57. Basic Operational Unit for rural development in India is
(1) Block
(2) Tahsil
(3) Village Panchayat
(4) School

58. Command Area Development Programme was started in
(1) 1976 (2) 1979
(3) 1962 (4) 1974

59. Fundamental objective of extension education is
(1) Development of the people
(2) Development of the resources
(3) Modernization
(4) Industrialization

60. Gregor Mendel died in the year
(1) 1886 (2) 1884
(3) 1874 (4) 1890

61. In repayment of a loan, when the interest rate is greater than zero, the total sum repaid will always be
(1) Less than the sum borrowed
(2) Equal to the sum borrowed
(3) More than the sum borrowed
(4) Equal to the interest component

62. In future market, the price at which the settlement is made is known as
(1) Spot price
(2) Forward price
(3) Cash price
(4) Support price

63. Geographical expansion of market is known as
(1) Spatial growth
(2) Temporal growth
(3) Functional growth
(4) External growth

64. An example of Co-operative Organization is
(1) KPTCL (2) Jindal
(3) CCI (4) HOPCOMS

65. Transportation in Agricultural Marketing creates
(1) Time Utility
(2) Place Utility
(3) Form Utility
(4) Possession Utility



66. Primary Agricultural Credit Societies are now called
(1) Primary Agricultural Lending Societies
(2) Primary Rural Credit Societies
(3) Primary Agricultural Co-operative Banks
(4) Primary Farmers' Societies

67. Regional Rural Banks are owned by
(1) Central Government
(2) State Government
(3) Commercial Banks
(4) Central Government, State Government and Commercial Bank

68. Nationalization of Commercial Banks was first done in India in the year
(1) 1980 (2) 1969
(3) 2000 (4) 1947

69. The general method of sale adopted in APMCs is
(1) Under Cover
(2) Negotiation
(3) Tender
(4) Contract buying

70. The label used for assuring quality of agricultural commodities is
(1) AGMARK (2) ISI
(3) ISO (4) BIS

71. When the demand for agricultural commodities increases in the market, the prices will
(1) Fall
(2) Remain neutral
(3) Increase
(4) Become zero

72. The following is **not** a principle of co-operation
(1) Voluntary membership
(2) Democratic management
(3) Self help through mutual help
(4) One share one vote

73. Prices of agricultural commodities are determined by
(1) Producers
(2) Consumers
(3) Demand and supply
(4) Traders

74. The difference between the prices paid by consumers and prices received by producers is known as
(1) Price spread (2) Price margin
(3) Price gained (4) Price lost

75. Value addition to a commodity always results in
(1) Increased costs
(2) Increased supply
(3) Increased demand
(4) Increased heartburn

76. Among other things, the proposed amendment to APMC Act provides for
(1) Reduction in market fees
(2) Reduction in commission charges
(3) International trade
(4) Contract buying by traders

77. When one agency does different functions of marketing, it is known as
(1) Vertical integration
(2) Horizontal integration
(3) Co-operation
(4) Contract

78. The following institution falls under Three-tier Co-operative structure
(1) RRB
(2) Commercial Bank
(3) Land Bank
(4) DCC Bank

79. An example of a self-liquidating loan is
(1) Crop loan
(2) Pumpset loan
(3) Tractor loan
(4) Land purchase loan

80. The Government of India announces Statutory Minimum Price for
(1) Cereals
(2) Sugarcane
(3) Pulses
(4) Oilseeds

81. The oldest type of markets for agricultural commodities found in India is
(1) Regulated markets
(2) Retail chains
(3) Village shandies
(4) Terminal markets

82. Scale of finance in Commercial Banks refers to
(1) Cost of cultivation of crops
(2) Returns from production
(3) Maximum loans lent for an activity
(4) Amount of loan to be repaid by borrower

83. To mitigate the problems of farmers in distress sale, the State Government adopts
(1) Floor Price Scheme
(2) Base Price Scheme
(3) Minimum Price Scheme
(4) Maximum Purchase Scheme

84. The agency which helps the Government in implementing the Public Distribution System is
(1) APEDA (2) NAFED
(3) HOPCOMS (4) FCI

85. Between two stages of marketing, the sale price is always
(1) Higher than purchase price
(2) Equal to purchase price
(3) Less than purchase price
(4) Sale and purchase price are unrelated

86. A fall in the rate of inflation means
(1) Reduction in prices of commodities
(2) Increase in prices of commodities
(3) Reduction in rate of increase of prices
(4) Reduction in consumption



98. Louis Pasteur first discovered

- Disinfection of rearing house using formalin
- Hybrid vigour in silkworms
- Sericulture
- Mother moth examination to detect pebrine disease

99. Compared to late age silkworms young age silkworms require

- Higher temperature and lower humidity
- Lower temperature and lower humidity
- Higher temperature and higher humidity
- Lower temperature and higher humidity

100. An important ecto-pupal parasitoid of the uzi fly *Exorista bombycis* is

- Cryptolaemus montrouzieri*
- Nesolynx thymus*
- Trichogramma chilonis*
- Peridospora mori*

101. The recommended fertilizer dose of Azotobacter fertilizer for mulberry is

- 150 kg/ha/year
- 120 kg/ha/year
- 20 kg/ha/year
- 20 tonnes/ha/year

102. The dead silkworm larvae normally turn black due to secondary infection of

- Virus
- Bacteria
- Protozoa
- Fungi

103. The best planting season for mulberry is

- June – August
- April – May
- December – January
- Any time of the year

104. Which one of the following silkworm-host combinations is wrong ?

- Anthraea mylitta* – *Shorea robusta*
- Anthraea mylitta* – *Litsea polyantha*
- Samia Cynthia ricini* – *Manihot utilissima*
- Anthraea assamensis* – *Machilus bombycina*

105. The optimum temperature and relative humidity conditions for silkworm egg incubation are

- 25° C and 75-80%
- 22° C and 60-65%
- 28° C and 85-90%
- 20° C and 50-60%



106. Uniformity in silkworm egg hatching (on a single day) is achieved by

- Refrigerating at 5° C for two weeks
- Washing in 5% bleaching powder solution
- Washing in 2% formalin solution
- Black boxing

107. Advantages of shoot feeding method of silkworm rearing are

- Leaf saving upto 20%
- Labour saving upto 70%
- Cost of production is reduced
- Rearing room floor area required is less

One of the advantages mentioned above is wrong which is it ?

108. At present the percentage of charka silk produced in India is

(1) 20%	(2) 50%
(3) 80%	(4) 90%

109. In mulberry garden use of gypsum is recommended for reclamation of

- Saline soils
- Alkaline soils
- Acidic soils
- Unfertile soils

110. Chawki worms are normally fed with mulberry leaves

- Once a day
- Once in each instar
- Two times a day
- Three-four times a day

111. Artificial hatching of bivoltine silkworm eggs is achieved by treating eggs with

- Hydrochloric acid
- Formaldehyde solution
- Bleaching powder solution
- Subjecting them to high temperature

112. Aspergillosis disease is most common in

- Late age silkworms
- Young age silkworms
- All the instars
- This is not a silkworm disease

113. Silkworm diseases

- Can be cured by disinfection
- Can be only prevented but not cured
- Can be cured by bed disinfection
- Is a very minor problem and can be ignored



114. In cottage basin silk reeling .

- Silk is reeled on to big reels first and later transferred to small reels
- Silk is reeled on small reels first and later transferred to big reels
- Either way (1 or 2) it should not matter
- Silk is directly reeled onto big reels

115. The two most common types of silks produced in Assam are

- Eri and muga
- Mulberry and tasar
- Tasar and muga
- Eri and tasar

116. V₁ mulberry variety is characterized by

- Leaves pale green recommended for chawki silkworms
- Collected from Don valley of Uttarakhand
- Erect fast growing unlobed dark green leaves
- Recommended for rainfed tracts of Karnataka

117. Which one of the following pairs is **not** correctly matched ?

Pathogen	Symptom
(1) <i>Nosema bombycis</i>	Larvae are unequal in size
(2) <i>Beauveria bassiana</i>	Oily specs on the integument of larvae
(3) BmNPV	Midgut becomes white due to infection
(4) <i>Serratia marcescens</i>	Larval body appears reddish due to pigment produced by the bacteria

118. Denier of silk filament represents

- size of the filament
- length of the filament
- tenacity of the filament
- weight of the filament

119. In row system of mulberry cultivation the recommended spacing between row to row and plant to plant is

- 90 × 90 cm
- 30 × 30 cm
- 45 × 15 cm
- 60 × 60 cm

120. Which of the following chemicals is **not** used as a bed disinfectant in sericulture ?

- Lime powder
- Dithane - M₄₅
- Paraformaldehyde
- Zinc phosphophide