

MIZORAM PUBLIC SERVICE COMMISSION

TECHNICAL COMPETITIVE EXAMINATIONS FOR RECRUITMENT TO THE POST OF GRADE-V OF MIZORAM AGRICULTURE SERVICE/AEO UNDER AGRICULTURE DEPARTMENT, GOVERNMENT OF MIZORAM. JUNE -2019

TECHNICAL SUBJECT (AGRICULTURE)

PAPER - II

Time Allowed : 2 hours

Full Marks : 150

Attempt all questions.

All questions carry equal marks of two (2) each.

- The Seeds Act was enacted by the parliament in the year
 - 1965
 - 1967
 - 1966
 - 1968
- The isolation distance for certified seed production in cole crops is
 - 1500 m
 - 1500 cm
 - 500 m
 - 500 cm
- Seed health tests may be done through
 - Visual examination
 - Soaking
 - Washing test
 - All of these
- Seed sample taken from laboratory sample for testing is known as
 - Primary sample
 - Submitted sample
 - Composite sample
 - Working sample
- Truthful seed having characters of
 - Truthful labelling is compulsory for notified kind of varieties
 - Tested for physical purity and germination
 - Seed inspectors alone can take samples for checking the seed quality
 - All of these
- A golden yellow colour certificate is issued for
 - Breeder Seed
 - Nucleus Seed
 - Foundation Seed
 - Certified Seed
- Mutation is due to change in gene because of
 - Loss
 - Addition
 - Degeneration
 - All of these
- The headquarters of the union for the protection of new plant varieties (UPOV) is located at?.
 - Bangkok
 - Geneva
 - Moscow
 - Washington
- Variation arising during tissue culture of plants is known as
 - Mutation
 - Selection
 - Somaclonal variation
 - All of these

10. Cloning means
- (a) Making an identical copy physically as well as genetically
 - (b) Exact replica of plants or animals replicated asexually
 - (c) Deriving genetic matter from single parents
 - (d) All of these
11. Most commonly used test for estimating GCA in crop species is
- (a) Progeny test
 - (b) Top cross test
 - (c) Single cross test
 - (d) Poly cross test
12. Disease and pest resistance is governed by
- (a) Oligogenes
 - (b) Polygenes
 - (c) Monogene
 - (d) All of these
13. Breeding methods for self-pollinated crops are
- (i) Mass selection
 - (ii) Pure line selection
 - (iii) Pedigree methods
 - (iv) Back cross methods
- (a) (i), (ii) and (iii)
 - (b) (i), (ii) and (iv)
 - (c) (i), (iii) and (iv)
 - (d) All of these
14. Consider the statements
- (i) Colchicine is most widely used for chromosome doubling
 - (ii) It is a poisonous chemical isolated from seeds and bulbs of crocus
 - (iii) Pure colchicine is $C_{22}H_{25}O_6N$
 - (iv) It blocks spindle formation
- (a) All are correct
 - (b) Four alone is correct
 - (c) Two alone is correct
 - (d) One and three are correct
15. In plant breed homozygous individuals are represented as
- (a) RR or rr
 - (b) HP or hp
 - (c) HH or hh
 - (d) FF or ff
16. Cross of F1 with either of its parents is
- (a) Test cross
 - (b) Back cross
 - (c) Direct cross
 - (d) Polyhybrid cross
17. Tristeza disease is commonly found in
- (a) Guava
 - (b) Citrus
 - (c) Grapes
 - (d) Banana
18. Which one of the following is a predominant nursery disease in vegetable crops?
- (a) Anthracnose
 - (b) Damping off
 - (c) Blight
 - (d) Rust
19. Little leaf disease in brinjal is caused by a
- (a) Virus
 - (b) Phytoplasma
 - (c) Fungus
 - (d) Bacterium

20. Whiptail” is a malady associated with the nutrient.
- (a) Molybdenum (b) Manganese
(c) Zinc (d) Boron
21. India is the largest producer, consumer and exporter of
- (a) Wheat (b) Rice
(c) Sugarcane (d) Spices
22. Scientific Name of Bird eye Chilli is
- (a) *Capsicum annum* (b) *Capsicum baccatum*
(c) *Capsicum frutescens* (d) *Capsicum chinense*
23. Which of the following cucurbits is a viviparous crop?
- (a) Iskut (b) Pointed Gourd
(c) Ivy gourd (d) Sweet gourd
24. The bitterness in cucurbit due to
- (a) cucurbita (b) Tetracyclic triterpenes
(c) Calcium oxalate (d) Alkaloids
25. For cultivation of dioecious cucurbits male and female plant should be maintain in ratio of
- (a) 10:1 (b) 25:1
(c) 20:2 (d) 10:2
26. High temperature and longer light period induces _____ in cucumber
- (a) Maleness (b) Femaleness
(c) Fruit growth (d) Fruit ripening
27. Little leaf disease of Brinjal is transmitted by an insect vector
- (a) Leaf hopper (b) Butterfly
(c) Aphid (d) None of the above
28. Fruit setting in brinjal usually in the flower having
- (a) Medium style (b) Short Style
(c) Long and medium style (d) Short & medium Style
29. powdery mildew is serious problem which of the following crops
- (a) Capsicum (b) Cucurbits
(c) Pea (d) Okra
30. The oldest method of plant breeding is-
- (a) Introduction (b) Selection
(c) Hybridization (d) None of these
31. Method of selection in plants showing vegetative propagation is:-
- (a) Pedigree selection (b) Pure line selection
(c) Clonal selection (d) Mass selection
32. The best way to obtain bacteria and virus free plants through tissue culture is-
- (a) Micro propagation (b) Seed germination after gamma irradiation
(c) Shoot tip culture (d) All of these

33. The process involving inspection, fumigation and growing the introduced plant material in isolation is known as
- (a) Acclimatization (b) Quarantine
(c) Adaptation (d) All of these
34. Pure line selection is also called-
- (a) Inbred selection (b) Progeny selection
(c) Single line selection (d) All of these
35. Cryopreservation is the storage of material at ultra-low temperature-by
- (a) Very Rapid Cooling
(b) -196 °C in liquid nitrogen (N₂)
(c) Gradual Cooling & Simultaneous Dehydration at Low Temperature
(d) All of these
36. Variation arises by-
- (a) Gene Mutation (b) Recombination
(c) Chromosomal Mutation (d) All of these
37. Gene silencing is caused by?
- (a) DNA methylation (b) Co- Suppression
(c) Antisense RNA (d) All of these
38. Double-helical structure of DNA was given by whom?
- (a) Jacob and Monod (b) Watson and Crick
(c) H.G. Khorana (d) None of these
39. Which one of the following fruit crops is highly susceptible to salinity?
- (a) Date palm (Phoenix dactylifera) (b) Ber (Zizyphus jujuba)
(c) Pomegranate (Punica granatum) (d) Almond (Amygdalus communis)
40. In which one of the following insect has the outbreak of maize crops been noticed recently?
- (a) Stem fly Warm (b) Stem borer of maize
(c) Fall Army Warm (d) Maize Worm
41. The development of seed without sexual fusion of male and female gametes is known as
- (a) Vegetative reproduction (b) Apomixis
(c) Self-incompatibility (d) Apospory
42. Synthetic variety is developed by
- (a) Crossing inbred lines tested for SCA (b) Mixing seeds of inbred lines
(c) Crossing inbred lines tested for GCA (d) Mixing seeds of open-pollinated cultivars
43. The amount of carbendazim 50% wettable powder required to prepare 1000 ppm solution is
- (a) 1g in 1 litre of water (b) 0.1g in 1 litre of water
(c) 0.2g in 1 litre of water (d) 2g in 1 litre of water

44. Match List I (Disease) with List II (Crop) and select the correct answer using the codes given below the lists:

List A

- A. Late blight
- B. Loose Smut
- C. Blast
- D. Fire Blight

List B

- 1. Wheat
- 2. Potato
- 3. Pear
- 4. Rice

Codes : A B C D

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

45. Phyllody in sesame is caused by

- (a) Bacteria
- (b) Mycoplasma
- (c) Insects
- (d) Virus

46. Pheromone trap attracts?

- (a) Male bug
- (b) Female moth
- (c) Male moth
- (d) Female bug

47. Azolla is used as biofertilizer as it has

- (a) Rhizobium
- (b) Cyanobacteria
- (c) Mycorrhiza
- (d) Large quantity of humus

48. Which is major component of Bordeaux mixture?

- (a) Copper Sulphate
- (b) Sodium Chloride
- (c) Borax
- (d) Calcium Chloride

49. What is the name of a scheme to support organic farming endeavors

- (a) Paramparik Krishikaran Yojana
- (b) Paramparagat Krishi Vikas Yojana
- (c) Prayogik Krishi Vikas Yojana
- (d) Khushal Kheti Yojana

50. National Center of Organic Farming is in

- (a) Nagpur
- (b) Kochi
- (c) Hyderabad
- (d) Ghaziabad

51. What is transition period?

- (a) 3-year transition period from conventional to organic management
- (b) 4-year transition period from conventional to organic management
- (c) 2-year transition period from conventional to organic management
- (d) 1-year transition period from conventional to organic management

52. NPOP stands for

- (a) National Programme for Organic Production
- (b) National Programme for Organic Policy
- (c) National Programme for onion and garlic Production
- (d) National Planning for Organic Production

53. Ha-NPV is used for the control of
(a) *Helicoverpa armigera* (b) *Neochetina bruchi*
(c) *Vicia sativa* (d) None of these
54. Which among these can be used as seed treatment against soil borne fungal disease in organic farming?
(a) *Trichogramma* (b) Stomp
(c) Carbendazim (d) *Trichoderma*
55. Which type of earthworm is used for vermicomposting?
(a) Vermicilli (b) Epigeic
(c) Endogeic (d) None of these
56. Which authority is the first who promoted organic agriculture in India?
(a) APEDA (b) CSIR
(c) ICAR (d) UGC
57. Which among the following is the effective insect parasite against gram caterpillar or sorghum stem borer?
(a) NPV (b) *Trichogramma*
(c) BT (d) None of these
58. Dealing with the LD50 rating, a herbicide with a label warning of “danger poison” would have what type of toxicity rating?
(a) High (b) Moderate
(c) Low (d) Slight
59. Which of these is NOT considered an insect growth regulator?
(a) Synthetic pyrethroid (b) Juvenile hormone analogue
(c) Chitin inhibitor (d) Ecdysteroid
60. Insects in the orders _____ are the most important vectors of plant diseases.
(a) Hemiptera and Thysanoptera (b) Hemiptera and Diptera
(c) Hemiptera and Lepidoptera (d) Hemiptera and Coleoptera
61. Match the following storage pest ?
- | | List A | | | List B |
|--|-----------------------|--|--|------------------------------------|
| | A. Rice weevil | | | 1. <i>Trogoderma granarium</i> |
| | B. Khapra beetle | | | 2. <i>Sitophilus oryzae</i> |
| | C. Lesser grain borer | | | 3. <i>Callosobruchus chinensis</i> |
| | D. Pulse beetle | | | 4. <i>Rhyzopertha dominica</i> |
- Codes :** A B C D
- | | | | | |
|-----|---|---|---|---|
| (a) | 3 | 4 | 1 | 2 |
| (b) | 2 | 4 | 1 | 3 |
| (c) | 2 | 1 | 4 | 3 |
| (d) | 3 | 1 | 4 | 2 |
62. Which of these is NOT considered an insect growth regulator?
(a) Synthetic pyrethroid (b) Juvenile hormone analogue
(c) Chitin inhibitor (d) Ecdysteroid

63. Which of country is the largest producer of fruit and vegetables?
(a) Brazil and China (b) China and China
(c) China and India (d) China and America
64. Agricultural and processed products development Authority (APEDA) was established in
(a) 1980 (b) 1986
(c) 1985 (d) 1990
65. High Density planting in pineapple accommodates plants about
(a) 10000 (b) 45000
(c) 30000 (d) 43500
66. Pusa Giant Papaya variety is a
(a) Dioecious (b) Gynodioecious
(c) Gynodioecious (d) Monoecious
67. Most commonly used method for transformation of plants is
(a) Protoplast Methods (b) Agrobacterium mediated transformation
(c) Micro injection (d) None of these
68. Two bacteria most useful in genetic engineering are
(a) Rhizobium and Azotobactor (b) Agrobacterium and Escherichia
(c) Nitrosomonas and Agrobacterium (d) Rhizobium and Diplococcus
69. Application of embryo culture is in
(a) Clonal production (b) Production of alkaloid
(c) Production of somaclonal variation (d) Overcoming hybridization barriers
70. Scientific name of white jute
(a) Corchorus capsularis (b) Corchorus oiltorius
(c) Gossypium barbadense (d) None of these
71. Duration of Boro Rice?
(a) January - July (b) January - February to April-May
(c) July - September (d) July - December
72. Shelling percentage in pea?
(a) 49% (b) 60%
(c) 80% (d) 35%
73. Which crops is known as wonder crops and meat for the poor people?
(a) Sunflower (b) Soybean
(c) Pea (d) Arahhar
74. Ginning percentage in cotton is ?
(a) 24-43 % (b) 50-60 %
(c) 70 % (d) 10 %

75. Match the following balanced diet for a moderately active male adult in amount gram per day?

List A

- A. Cereals & Millets
- B. Pulses (legumes)
- C. Fruits
- D. Fats and Oils

List B

- 1. 80
- 2. 400
- 3. 30
- 4. 100

Codes :

	A	B	C	D
(a)	3	4	1	2
(b)	2	4	1	3
(c)	2	1	4	3
(d)	3	1	4	2

* * * * *