MIZORAM PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATIONS FOR JUNIOR GRADE OF MIZORAM AGRICULTURE SERVICE (MAS) UNDER AGRICULTURE DEPARTMENT, GOVERNMENT OF MIZORAM, JANUARY-FEBRUARY, 2024

PAPER - III

Time Allowed : 3 hours FM : 200

All questions carry equal marks of 2 each.
Attempt all questions.

1. Critical irrigation stage of wheat
(a) Crown gall initiation (b) Root initiation
(c) 40 days after sowing (d) Crown root initiation

2. The total food grain production in the country (2022-23) is _____ million tonnes.
(a) 300 (b) 310
(c) 329.7 (d) 375.7

3. Most common herbicide used in maize is
(a) Metribuzin (b) Simazine
(c) Glycel (d) Pendimethalene

4. Farmer's Day is observed on
(a) 22 Nov (b) 23 Dec
(c) 15 Oct (d) 5 March

5. Sugarcane roots consists of _____ roots.
(a) Sett and shoot (b) Shoot and met
(c) Auxiliary (d) Terminal

6. Central Agriculture Research Institute - ICAR is located at
(a) Tezpur (b) Ludhiana
(c) Port Blair (d) Kasargod

7. Number of Agro climatic zone of India is
(a) 20 (b) 17
(c) 16 (d) 15

8. Cloud seeding aims to correst deficiency of _____ in the cloud.
(a) Nuclei (b) CO_2
(c) Water vapour (d) Droplets

9. International Maize and Wheat Improvement Centre is located at
(a) Mexico (b) Rome
(c) Paris (d) Nairobi

10. Tillage _____ soil hydraulic conductivity.

(a) Decrease (b) Normalize

(c) Increase nor decrease (d) Increase

11. Mouldboard plough (Animal Drawn) is for

(a) Multipurpose (b) Deep Ploughing

(c) Creeping grass (d) Amendment incorporation

12. Rice flower at the base have two transparent structure

(a) Lamse (b) Lodicules

(c) Creepiae (d) Hull

13. The Concept of minimum tillage started in

(a) USA (b) Spain

(c) Kenya (d) India

14. Most common weed in rice

(a) Cyperus spp (b) Vicoa spp

(c) Echinochloa spp (d) Celosia spp

15. Maize contain about _____% protein.

(a) 15 (b) 20

(c) 10 (d) 12

16. The most climate resilient crop is

(a) Maize (b) Rice

(c) Millet (d) Soybean

17. Retting of Jute requires _____ degree celsius.

(a) 30 (b) 34

(c) 32 (d) 38

18. Sugarbeet belong to the family

(a) Amarlidiaceae (b) Fagaceae

(c) Solanaceae (d) Chenopodiaceae

19. The weed species that show allelopathi effect is

(a) *Ambrosia spp* (b) *Echinochloa spp*

(c) *Vivoa spp* (d) *Crotolaria spp*

20. During the atmospheric CO_2 reached as high as

(a) 400 PPM (b) 420 PPM

(c) 380 PPM (d) 450 PPM

21. The Annual precipitation and evaporation index (PE) for sub humid climate is

(a) 32-63 (b) 64-127

(c) >128 (d) <16

22. Upland rice cultivation generally requires _____ weeding in the hills.

(a) Two (b) Three

(c) One (d) Four

23. India is situated in the _____ trade wind zone.

(a) North East (b) South East

(c) South West (d) East West

24. Sorghum originated from

(a) Mexico
(b) Africa
(c) India
(d) South America

25. Indian Council of Agriculture Research Foundation Day is celebrated on

(a) 16th July
(b) 10th December
(c) 9th January
(d) 25th April

26. In India, most common P extractant reagent for acid soil is

(a) Bray and Kurtz
(b) Olsen
(c) Bray II
(d) Morgan's

27. Sweet crops like beet and sweet potato requires high amount of

(a) Nitrogen
(b) Potassium
(c) Zinc
(d) Phosphorus

28. The quantitative law basis to colorimetric analysis is

(a) Mattson law
(b) Beer and Lambert Law
(c) Gain,s and thomas Law
(d) None of these

29. The protein secreted by microbes to mineralized organic matter is

(a) Hormones
(b) Cappilaries
(c) Micro molecules
(d) Enzymes

30. Land capability class 8 is denoted by

(a) Blue
(b) Red
(c) Purple
(d) White

31. Soils formed under tropical climate are high in

(a) Primary minerals
(b) SiO_2
(c) Sesquioxides
(d) Dolomite

32. Soil order of Mizoram belongs to

(a) Red and lateritic
(b) Entisol, Alfisol and Inceptisols
(c) Entisol, histosol and inceptisol
(d) Alfisol and inceptisol

33. Tha law of minimum was given by

(a) Spillman
(b) Whatmann
(c) Juston von Liebig
(d) Dey

34. The presence of two or more nutrients in one compound or mixture is called as

(a) Mixed fertilizers
(b) Straight
(c) Fertilizer mixtures
(d) Complex fertilizers

35. The temperature maintained in ammonia production by Claude-Haber-Bosch systhesis process is _____ degree celsius.

(a) 300-400
(b) 400-500
(c) 200-300
(d) >500

36. Which gas largely escapes to the atmosphere through denitrification?

(a) NO_2
(b) NH_4
(c) N_2O
(d) N_2

37. Root development is stimulated due to the supply of
(a) K (b) P
(c) Ca (d) N

38. The ash produce due to biomass burning in jhum increases the _____ content in soil.
(a) P (b) N
(c) Cu (d) All of these

39. The C:N ratio of a fresh biomass to narrow down quickly can be enhanced by applying
(a) Urea (b) Organic matter
(c) Bone meal (d) charcoal

40. The biomass of _____ is largest.
(a) Fungi (b) Bacteria
(c) Actinomycetes (d) Virus

41. Minerals formed during advance stages of weathering
(a) Montmorillonite (b) Kaolinite and illite
(c) Quartz (d) Kaolinite and Halloysite

42. Contour bunding is adopted on to _____ slope of land.
(a) 10 (b) 12
(c) 6 (d) 20

43. Crinkle leaf of cotton is caused by
(a) Zn toxicity (b) Fe toxicity
(c) Cu toxicity (d) Mn toxicity

44. Blossom end rot of tomato can be cured by _____ application.
(a) N fertilizer (b) Vermicompost
(c) Organic Matter (d) Lime

45. Muddy run off from the field is an indication of
(a) Ravine erosion (b) Sheet erosion
(c) Splash eorsion (d) Rill erosion

46. The method of air layering is commonly practiced in
(a) Mango (b) Guava
(c) Lemon (d) Cherry

47. Jam contains _____ percent acid.
(a) 0.5-0.6 (b) 1-2
(c) 3-4 (d) 6

48. Jelly should contain _____ percent TSS.
(a) 65 (b) 50
(c) 40 (d) 60

49. The red colour of chilli is due to
(a) Anthocyanin (b) Lycopene
(c) Capsanthin (d) antioxidant

50. Citrus die back occurs due to the deficiency of

(a) Cu and Mn
(b) Zn and Cu
(c) Zn and B
(d) B and Mo

51. Plants which grow in shade

(a) Sciophytes
(b) Heliophytes
(c) Obligated heliophytes
(d) Facultative heliophytes

52. Climacteric fruits is

(a) Lemon
(b) Grape
(c) Mango
(d) Pineapple

53. Salinity tolerant fruits are

(a) Orange and Grape
(b) Aonla and Guava
(c) Plum and Avocado
(d) Peach and Apricot

54. A common disease of Dragon fruit in Mizoram is

(a) Blight
(b) Brown spot
(c) Leaf curl virus
(d) Anthracnose

55. Seed Spices includes

(a) Ajwain and Fennel
(b) Saffron and Clove
(c) Mentha and Tejpat
(d) Cinnamon and Onion

56. India horticulture contributes about _____ percent to agriculture gross value added (GVA).

(a) 26
(b) 33
(c) 38
(d) 50

57. Propagation method of grape is

(a) Soft wood cutting
(b) Hard wood cutting
(c) Hard V
(d) Semi hard wood cuting

58. Fenni an alcoholic beverage is produced from which crop

(a) Grape
(b) Aonla
(c) Apple
(d) Cashew apple

59. The hormone needed for cell division during germination of seed?

(a) Cytokinin
(b) Abscisic acid
(c) Gibberellin
(d) Ethylene

60. Queen of Spice

(a) Cardamom
(b) Cinnamon
(c) Ginger
(d) Black pepper

61. Quarantine regulations are enforced by

(a) State
(b) Country
(c) State or Country through legislation
(d) Continent

62. Certification is the method of pathogen management

(a) Field sanitation
(b) Avoiding contact between pathogen and host
(c) Application of chemicals
(d) Eradication

63. Damping off disease generally occurs in
(a) Nursery
(b) Matured crops
(c) Plantations
(d) Fruits

64. Blast disease of rice can be conductive due to
(a) Soil pH increase
(b) Heavy N fertilizer application
(c) Soil P deficiency
(d) Soil K deficiency

65. Sheath blight of rice is caused by
(a) *Corticium sasakii*
(b) *Xanthomonas translucens*
(c) *Xanthomonas oryzae*
(d) *Claviceps oryzae-sativae*

66. Insecticide use for seed storage
(a) Alluminium phosphide
(b) Captan
(c) Dithane
(d) Phosphomidon

67. Gundhi Bug can be managed by
(a) Endosulfan
(b) Malathion dust
(c) Phosphomedon
(d) Monocrotophos

68. Common insecticide for management of Fall army worm
(a) Emamactin Benzoate
(b) Chlorpyriphos
(c) Quinalphos
(d) Malathion

69. "Dead heart" in maize is associated with
(a) Leaf roller
(b) Stem borer
(c) Shoot fly
(d) Grass hopper

70. Egg parasitoid is
(a) *Brumoides suturalis*
(b) *Trichogramma chilonis*
(c) Chrysoperia camea
(d) *Bracon brevicornis*

71. *Cryptolaemus montrouzieri* is an important predator of
(a) Sucking pest on rice
(b) Sucking pest on cotton
(c) Sucking pest on coffee
(d) Mealy bugs on fruits

72. A pheromone known as "gossyplure" can be use in controlling
(a) Pink ballworm
(b) Diamond black moth
(c) Gypsy moth
(d) White grubs

73. Which control measure is the oldest and most effective?
(a) Biological
(b) Cultural
(c) Chemical
(d) Mechanical

74. "Powdery mildew" in pea is caused by
(a) *Podosphaera xanthii*
(b) *Podosphaera aphanis*
(c) *Erysiphe polygoni*
(d) *Uromuces fabae*

75. Which of the following material is use for chemical control?
(a) Spray material
(b) Dust material
(c) Soil and seed treatment
(d) All of these

76. Pathogen often develops resistance against which type of chemicals?

(a) Dust
(b) Systemic fungicides
(c) Paste
(d) Fumigants

77. The aim of IPM is

(a) Keeping the pest no below economic threshold levels instead of eradication
(b) Eradication of the pest
(c) Using all means of control instead of eradication
(d) Using manual control to maintain biodiversity and eradicate with chemicals

78. Tikka disease of Groundnut can be seen in leaves in the form of

(a) Small dark brown circular spots
(b) Small blemish reddish stripes
(c) Small reddish hollow circular rings
(d) Small brownish drying

79. Sesamum phyllody is caused by

(a) Bacteria
(b) Mycoplasma like organism
(c) Virus
(d) Fungi

80. The crop where highest pesticide is used in India

(a) Cotton
(b) Rice
(c) Brinjal
(d) Maize

81. Example of CAM Plant is

(a) Sisal
(b) Millet
(c) Amaranthus
(d) Sugarbeet

82. The enzyme involved in carboxylation of C4 plants _____ carboxylase.

(a) ribulose 1,5-bisphosphate
(b) NABPH
(c) PEP
(d) ribulose 1,5-bisphosphate & PEP

83. In plants, the molecule absorbing radiant energy in the visible range is

(a) Stomata
(b) NADP
(c) Pigment
(d) Chlorophyll

84. The reduction of CO_2 is also known as

(a) Dark reaction
(b) Light reaction
(c) Photolysis
(d) Phosphorylation

85. The primary product of C fixation is 4-carbon compound which may be malic acid or aspartic acid

(a) C_3
(b) C_3 and C_4
(c) C_4
(d) CAM

86. In terms of seed germination, most of the cultivated crops belongs to

(a) Positive photoblasic
(b) Negative photoblasic
(c) Non photoblastic
(d) All of these

87. Which of the following elements are required for chlorophyll systhesis

(a) Fe and Co
(b) Fe and Mg
(c) Fe and Zn
(d) Ca and Mg

88. An element essential for activation an enzyme but not a part of an enzyme

(a) Fe
(b) Mg
(c) Mn
(d) K

89. Most important factor in stomata opening of plant

(a) Protein percentage (b) Chlorophyll

(c) Shape of guard cells (d) No of guard cells

90. The absorption of water and nutrients takes place in

(a) Root endodermis (b) Root epidermis

(c) Root tip (d) Root hairs

91. Kranz anatomy is found in

(a) Flower (b) Leaf

(c) Seed (d) Stem

92. Harvest index is a measure of

(a) Soil health efficiency (b) Environmental efficiency

(c) Reproductive efficiency (d) Growth efficiency

93. Water loss from the stomata of leaves are known as

(a) Guttation (b) Transpiration

(c) Perspiration (d) Exudation

94. Cooling mechanism in plants is caused by

(a) Photorespiration (b) Guttation

(c) Co_2 fixation (d) Transpiration

95. Hormone involved in the closing of stomata

(a) Auxins (b) Cytokinine

(c) Gibberelline (d) Abscisic acid

96. Transportation and movement of water in plants is through

(a) Cambium (b) Epidermis

(c) Xylem (d) Phloem

97. Plants requiring not less than 10 hours of light for flowering is called

(a) Day neutral (b) Short day plant

(c) None (d) Long day plant

98. Which hormone can replace vernalization?

(a) Auxin (b) Gibberellins

(c) Ethylene (d) Cytokinins

99. The hormone involved in ripening of fruits

(a) Auxin (b) Gibberellins

(c) Ethylene (d) Cytokinins

100. The hormone required for cell division during germination of seed

(a) Cytokinin (b) Abscisic acid

(c) Gibberellin (d) Ethylene

* * * * * * *