

PART – II

Total Number of
Questions : 40

Maximum Marks : 200

Time : 3 Hours

INSTRUCTIONS (നിർദ്ദേശങ്ങൾ)

1. Question cum Answer Booklets are processed by electronic means. The following instructions are to be strictly followed to avoid invalidation of answer scripts.
(ചോദ്യവും ഉത്തരവും അടങ്ങുന്ന ഈ ബുക്ക് ലെറ്റുകൾ ഇലക്ട്രോണിക് സാങ്കേതിക വിദ്യയുടെ സഹായത്തോടുകൂടെ മൂല്യനിർണ്ണയം നടത്തുന്നതിനാൽ ഇവ അസാധുവാകാതിരിക്കുവാൻ താഴെപ്പറയുന്ന നിർദ്ദേശങ്ങൾ പൂർണ്ണമായും പാലിക്കുക.)
2. The first page of this question cum Answer Booklet is an OMR data Sheet (Part I). All entries in the OMR sheet are to be made with blue or black ball point pen only.
(ഈ പുസ്തകത്തിന്റെ ഒന്നാമത്തെ പേജ് ഒരു ഒ.എം.ആർ. ഡാറ്റാ ഷീറ്റാണ് (പാർട്ട് I). ഇത് നീലയോ, കറുപ്പോ നിറത്തിലെ ബോൾ പോയിന്റ് പേന ഉപയോഗിച്ച് മാത്രമേ പൂരിപ്പിക്കാവൂ.)
3. Make sure that register number is bubbled correctly and completely; no correction is permitted.
(രജിസ്റ്റർ നമ്പർ രേഖപ്പെടുത്തുന്നതിനുള്ള കുமிழകൾ കൃത്യമായും പൂർണ്ണമായും കറുപ്പിച്ചിട്ടുണ്ടെന്ന് ഉറപ്പു വരുത്തുക. തിരുത്തലുകൾ അനുവദനീയമല്ല.)
4. Do not tamper the bar code printed on the OMR sheet and subsequent pages. Tampering of bar code will result in the invalidation of this booklet.
(ഈ പുസ്തകത്തിൽ എവിടെയും പ്രിന്റ് ചെയ്തിരിക്കുന്ന ബാർ കോഡിൽ ഒരു കാരണവശാലും തിരുത്തലുകളോ, മാർക്കുകളോ പാടില്ല. ഇതിനു വിരുദ്ധമായി ചെയ്യുന്ന പക്ഷം ഈ പുസ്തകം അസാധുവാകുന്നതാണ്.)
5. Answers should be written with blue or black ball point pen only.
(ഉത്തരങ്ങൾ നീലയോ, കറുപ്പോ നിറത്തിലെ ബോൾ പോയിന്റ് പേന ഉപയോഗിച്ച് മാത്രമേ എഴുതാവൂ.)
6. Do not write anything outside the margin of space provided for writing the answer and write only one line of answer between two lines.
(പുസ്തകത്തിൽ ഉത്തരം എഴുതുവാൻ നൽകിയിരിക്കുന്ന സ്ഥലത്തിനു വെളിയിൽ യാതൊന്നും തന്നെ എഴുതുവാൻ പാടില്ല. രണ്ടു വരകൾക്കിടയിൽ ഒരു വരി ഉത്തരം മാത്രമേ എഴുതുവാൻ പാടുള്ളൂ.)
7. Rough work should be done only in the specific page provided with.
(റഫ് വർക്കുകൾ ഇതിനായി നൽകിയിരിക്കുന്ന പേജിൽ മാത്രമേ ചെയ്യുവാൻ പാടുള്ളൂ.)

1. Describe speciality fertilisers. (5 Marks)
2. Conservation agriculture holds enough promise for climate change mitigation and adaptation. Explain. (5 Marks)
3. Explain the theories of origin of agriculture. (5 Marks)
4. What is plant ideotype? Explain rice ideotypes under different growing conditions. (5 Marks)
5. Describe the backcross method of breeding if the disease resistance is governed by a dominant gene. (5 Marks)
6. Define seed dormancy. Explain the methods to overcome dormancy in seeds. (5 Marks)
7. What is Participatory plant breeding? Enlist the advantages. According to PPVFRA (2001) explain farmer's rights. (5 Marks)
8. Define the following soil moisture constants with corresponding tensions at which water held in bars and pF value.
 - (a) Field capacity and
 - (b) Permanent wilting point (5 Marks)
9. Briefly describe the fertilizer control order (1985) with its purpose. (5 Marks)
10. Explain nutrient use efficiency (NUE) with formula to calculate it and list the ways to increase NUE. (5 Marks)
11. What is green hydrogen? Discuss Kerala's green hydrogen initiative and explain how it supports the transition to a sustainable energy future. (5 Marks)
12. How to emerging technologies aid in mitigating human-wildlife conflict and promoting coexistence? (5 Marks)

13. Why is SDG 15 essential and what are its key targets? (5 Marks)
14. How sustainable are the current waste management practices in Kerala, considering their environmental, economic and social dimensions? (5 Marks)
15. How robust are environmental regulations in India? What are the key drivers of rising environmental crimes? How can these challenges be effectively mitigated? (5 Marks)
16. Discuss the major triggering factors of landslides and suggest effective measures for risk reduction. (5 Marks)
17. Discuss the types, formation requirements and key characteristics of tropical cyclones. (5 Marks)
18. Illustrate a clear and well-labelled diagram of global pressure and wind belts. (5 Marks)
19. Discuss how agriculture acts as both a driver and a casualty of climate change. (5 Marks)
20. Evaluate the role of soil and water conservation measures in enhancing sustainability and productivity in rainfed agriculture. (5 Marks)
21. Describe the growth stages in rice. (5 Marks)
22. List out the dirty dozen weeds of rice with its common name and scientific name and explain the methods suggested by the Kerala Agricultural University for the Management of weedy rice. (5 Marks)
23. Briefly explain CSSRI classification of irrigation water based on EC and adjusted SAR. (5 Marks)
24. Briefly describe the classification of agroforestry system on structural basis, functional basis, ecological basis and socio-economic basis. (5 Marks)

25. Briefly explain the characteristics of HEIA and LEISA and also outline the techniques involved in LEISA and advantages of LEISA. (5 Marks)
26. Describe the organizational set up of NPOP and briefly explain the responsibilities of each body in NPOP. (5 Marks)
27. Define aerobic composting. Describe the various stages in aerobic composting and factors affecting aerobic composting and also discuss the advantages and disadvantages of aerobic composting. (5 Marks)
28. Explain different types of carbon sequestration and the ways to enhance soil carbon sequestration and explain why carbon sequestration is important for climate change. (5 Marks)
29. Define precision agriculture. List out the basic principles in Precision Agriculture, barriers in the adoption of Precision Agriculture, major components of precision agriculture and advantages of precision agriculture. (5 Marks)
30. What are the advantages of irrigation scheduling and describe the approaches of scheduling irrigation based on plant factors? (5 Marks)
31. Differentiate between contour bunding and graded bunding structures for soil and water erosion control. (5 Marks)
32. What is a cultivator, its purpose and working method in the field?(5 Marks)
33. Describe about the 'load' concept in the design of green house structure. (5 Marks)
34. Explain the mode of action of rocker sprayer equipment to spray the tall trees. (5 Marks)
35. Explain the different methods of parthenocarpy. Why do seedless grapes require pollination for fruit development, while bananas do not? (5 Marks)
36. Explain the different methods of food preservation using salt and sugar with emphasis on the principle used. (5 Marks)

37. List the different methods of lawn making and compare them in terms of cost, establishment time and long-term maintenance efficiency in varied climatic conditions. (5 Marks)
38. Explain the meaning of marketing function. Elaborate on the various functions related to marketing of farm products. (5 Marks)
39. What do you mean by marketing efficiency? What are the two approaches to the assessment of marketing efficiency? Explain any one method to assess the efficiency of marketing of agricultural commodities. (5 Marks)
40. Discuss the role of administered prices (Minimum Support Price/Procurement Price) in achieving a balanced and integrated price structure for agriculture commodities in the country. (5 Marks)