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#### NOTIFICATION

**No.A. 12018/72/2009 - P&AR(GSW), the 5<sup>th</sup> January, 2010.** In exercise of the powers conferred by proviso to Article 309 of the Constitution of India, and all other powers enabling him in this behalf, the Governor of Mizoram is pleased to make the following Rules, namely :-

#### **PART - I** **GENERAL**

1. (1) These Rules may be called the Mizoram Agriculture Service Rules, 2009.  
(2) They shall come into force on such date as the Government may, by notification in the Official Gazette appoint.
2. In these Rules, unless the context otherwise requires :-
  - (1) "Appointing Authority" means the Governor of Mizoram
  - (2) "Commission" means the Mizoram Public Service Commission
  - (3) "Constitution" means the Constitution of India;
  - (4) "Controlling Authority" means the Secretary of the Department which shall include Commissioner or Secretary appointed as the Head of Administrative Department;
  - (5) "Gazette" means the Mizoram Official Gazette;
  - (6) "Government" means the Government of Mizoram;
  - (7) "Governor" means the Governor of Mizoram;
  - (8) "Grade" means any of the grades specified in schedule-I;
  - (9) "Member" means a member of the Mizoram Agriculture Service appointed by the Governor of Mizoram in accordance with these rules;
  - (10) "Schedule" means the Schedule attached to these Rules;
  - (11) "Scheduled Tribe" means any of the Tribes in the Third Schedule to the State of Mizoram Act, 1986 (Central Act No.34 of 1986)
  - (12) "Service" means the Mizoram Agriculture Service.
  - (13) "State" means the State of Mizoram;
  - (14) "Year" means twelve months.

#### **PART -II** **CONSTITUTION OF THE SERVICE**

- Initial Constitution** 3. (1) There shall be constituted a service to be known as the Mizoram Agriculture Service (MAS).

- (2) All the Officers holding any of the posts mentioned in Schedule-I on regular or substantive basis immediately before the commencement of these Rules shall become members of the Service at the initial constitution of this Service;

**Provided that -**

- (a) All Serving Agriculture Officers presently holding the post of Agriculture Extension Officer (AEO) and its equivalent post shall be inducted into Grade V (entry grade) (Group 'B' Gazetted) of the Mizoram Agriculture Service.
- (b) All Serving Agriculture Officer presently holding the posts of Sub-Divisional Agriculture Officer and its equivalent posts in a substantive capacity shall be inducted into Grade IV (Group 'A' Gazetted) of the Service.
- (c) All serving Agriculture Officers presently holding the posts of Deputy Director, and its equivalent posts namely District Agriculture Officer(DAO) in a substantive capacity shall be inducted into Grade-III (Group 'A' Gazetted) of the Service.
- (d) All Serving Agriculture Officers presently holding the posts of Joint Director and equivalent posts in a substantive capacity shall be inducted into Grade II (Group 'A' Gazetted) of the Service.
- (e) Serving Agriculture Officers presently holding the post of post of Director of Agriculture (Crop Husbandry) & Director of Agriculture (Research & Education) in a substantive capacity shall be inducted into Grade I (Group 'A' Gazetted) of the Service.

**Designation:** 4. Members of the Mizoram Agriculture Service, shall, at the commencement of these Rules, be deemed to hold the posts mentioned in Schedule I at the appropriate Grades.

**Classification of Service** 5. The Service shall have the following grades of posts:-

<u>Sl.No.</u>	<u>Grade</u>	<u>Name of post.</u>
(1)	Grade-I (Group 'A' Gazetted)	(a) Director of Agriculture (Crop Husbandry) (b) Director of Agriculture (Research & Education)
(2)	Grade-II (Group 'A' Gazetted)	Joint Director of Agriculture and its equivalent posts.
(3)	Grade-III (Group 'A' Gazetted)	Deputy Director of Agriculture and its equivalent posts.
(4)	Grade-IV (Group 'A' Gazetted)	Sub-Divisional Agriculture Officer and its equivalent Posts.
(5)	Grade-V (Group 'B' Gazetted)	Agriculture Extension Officer and its equivalent posts.

**Authorized Permanent Strength of Service** 6. The authorised strength of the service in the various grades on the date of commencement of these Rules shall be as specified in Schedule-II Which may be amended from time to time.

**PART-III  
RECRUITMENT**

**Method of Recruitment** 7. (1) Appointment to any post after initial constitution under rule 3, in the entry grade of the Service shall be made as under :-

- (a) 33  $\frac{1}{3}$ % by promotion which shall be reserved for Officers in the feeder grade having trained in Govt. recognized Integrated Training Centre (ITC) / Basic Agriculture Training (BAT) and as specified in schedule-III appended to this rule.
  - (b) 66  $\frac{2}{3}$  % by direct recruitment through the Mizoram Public Service Commission from eligible candidates as per schedule-III appended.
- (2) The Commission shall conduct written examination and interview for selection to the post for direct recruitment as per the rules laid down by the Government and shall prepare and furnish a list of all candidates recommended for appointment in order of merit to the Government.
- a) The syllabus for conducting the written examination shall be as per Schedule-IV appended to this rule.

- Academic Qualification** 8. The minimum academic qualification of the candidate for direct recruitment in the entry grade shall be as in the Schedule - III
- Physical fitness** 9. A candidate for direct recruitment shall be :-  
(1) of sound health both mentally and physically and free from organic defect or bodily deformity likely to interfere with the efficient discharge of his/her duties.  
(2) required to undergo medical examination before appointment to the Service.
- Character** 10. A candidate for direct recruitment shall produce to the  
(1) A Gazetted Officer serving under Government of Mizoram who she/he is well acquainted with, but not related to the candidate.
- Age Limit** 11. A candidate for direct recruitment shall not be less than 18 years and not more than 35 years on the closing date for receipt of application from candidates provided that the upper age limit may be relaxable by five years in case of candidates belonging to Schedule Caste/Tribe and in respect of candidates belonging to other special categories of person in accordance with general or special order issued by the Government from time to time.
- Citizenship** 12. No person shall be qualified for appointment to the service unless he/she is a citizen of India and a bonafied resident of the State of Mizoram.
- Disqualification** 13. (1) No person -  
(a) Who has entered into or contracted a marriage with a person having a spouse living,  
OR  
(b) Who, having his spouse living, has entered into or contracted a marriage with any other person shall be eligible for appointment to the service provided that the Government may, if satisfied that such marriage is permissible under the Personal Law applicable to such person and to the other party to the marriage and that there are other grounds for doing so, exempt any person from the operation of these Rules and shall be eligible for appointment in the service.

- (c) Who is in service in a Government and any other Government undertaking shall be eligible for appointment in the service unless he/she produces a discharge certificate from his previous employer.
- (2) The appointing authority may institute such inquiries as he may deem necessary as to the particulars of any candidates in respect of nationality, age, character, conduct, antecedents etc. and if on the result of such inquiry the opinion of the appointing authority is unsatisfactory in any of these aspects, the candidate may be declared disqualified with intimation to the Commission.
- (3) Who attempts to enlist support for his candidature directly or indirectly by any means, shall be appointed to the service.

**PART -IV**  
**APPOINTMENT TO THE POSTS**

- |                                   |     |   |
|-----------------------------------|-----|---|
| <b>Appointment to</b>             | 14. | <p>(1) Subject to the provisions of sub-rule (1) of rule 7, and subject to <b>to the Service</b> the availability of vacancies, appointment to Grade-V (Group 'B' Gazetted) of the Service shall be made by the Government in the accordance with the order of names arranged in the list as recommended by the Commission.</p> <p>(2) A person recruited under sub rule (1)(b) of rule 7 shall join within 30 days from the date of issue of the order of appointment failing which, and unless the Government extends the period, the appointment shall stand cancelled.</p>  |
| <b>Probation and Confirmation</b> | 15. | <p>(1) A person recruited to the service under sub rule (1)(b) and (2) of rule 7 shall be on probation for a period of two years, which may be extended for a good and sufficient reason by the Govt. for a further period as may be determined by the Government.</p> <p>(2) Where a probationer has successfully completed his/her probation period or any extension thereof to the satisfaction of the Appointing Authority, he may be confirmed in the service.</p> <p>(3) If during the period of probation referred to in sub-rule (1) of rule 15 or extension thereof as the case may be, the appointing Authority is of the opinion that an Officer is not fit for permanent appointment, it may, in consultation with the Commission, discharge the Officer or pass order as deemed fit.</p> |
| <b>Seniority</b>                  | 16. | <p>(1) The seniority of member recruited under sub-rule (1) and (2) of rule 7 shall be determined by 33 1/3 % Promotion and 66 2/3 % Direct recruits (according to the order of merit as recommended by the Commission) proportionately on rotation basis and finally approved by the Appointing Authority in consultation with the commission.</p> <p>(2) The seniority inter-se of the members of the service appointed to any grade at the time of initial constitution shall be as obtained on the date of commencement of these rule; provided that if the seniority of any such member has not been specifically determined on the said date, the same shall be determined by the Government in consultation with the Commission.</p>   |

Provided that if there is any dispute not covered by sub-rules (1) and (2) above, it shall be determined by the Government in consultation with the Commission.

- (3) All members of the service who were substantively appointed in any particular grade in the service at the initial constitution shall rank senior to all other members temporarily appointed to that grade of the service under rule 7.

- Promotion condition**
17. (1) All vacancies in Grade-IV (Group 'A' Gazetted) and above shall be filled by promotion by selection as prescribed in Schedule - I
- (2) For promotion to Grade-IV (Group 'A' Gazetted) (i.e to the post of Sub-Divisional Agriculture Officer and its equivalent posts), a member of the service in Grade - V (Group 'B' Gazetted) should have completed at least 5 years regular service in Grade-V. 10% of the total strength shall be reserved for Promotion from ITC/BAT holders and 90% shall be reserved for B.Sc (Agri) Degree holders
- (3) For promotion to Grade-III (Group 'A' Gazetted) (i.e. Deputy Director, and its equivalent posts) a member should have completed at least 5 years regular service in Grade-IV (Group 'A' Gazetted).
- (4) For promotion to Grade-II (Group 'A' Gazetted) (i.e Joint Director, and its equivalent posts) a members should have completed at least 5 years regular service in Grade-III (Group 'A' Gazetted).
- (5) For promotion to Grade - I (Group 'A' Gazetted) i.e. Director of Agriculture (Crop Husbandry) and Director of Agriculture (Research & Education) a member should have completed at least 5 years of regular service in Grade-II (Group 'A' Gazetted) failing which at least 20 years of regular service out of which at least 3 years should be in Grade-II (Group 'A' Gazetted) and should be B.Sc (Agri) Degree and above holder.
18. Notwithstanding anything contained in these Rules, the Governor of Mizoram in public interest shall have the right and power to transfer any member of the service to any other post or position which is equivalent in rank or grade.

#### **PART – V MISCELLANEOUS PROVISION**

- Leave, Pension**
19. In respect of leave, pension, discipline and other conditions of service **and other matters** not expressly provided for in these Rules, the members of the service shall be governed by the general rules applicable to the Government employees from time to time.
- Sponsorship for further Studies.**
20. Members of the service may become eligible for sponsorship for undergoing Post Graduate and above Studies as the Government may decide from time to time subject to the following conditions, namely:
- (1) After successful completion of the period of probation and confirmation.
- (2) Completion of 5 years regular continuous service inclusive of the period of probation.
- (3) Satisfactory performance in the Service.
- (4) If so required by the Government and in public interest:

Provided further that members who have already possessed Post Graduate degree in any of the specialties shall not be eligible for sponsorship for any other Post graduate Studies except to pursue further study in the same discipline.

- Power to relax** 21. Where the Governor is of the opinion that it is necessary and expedient to do so, he may, in consultation with the Commission and for reasons to be recorded in writing, relax by order any of the provisions of these Rules.
- Repeal and Saving** 22. On and from the commencement of these Rules, all previous recruitment rules listed hereunder for the posts covered by these rules shall stand repealed :-
- 1) No. AGR. 101/77/20, dt. 12.3.2009 and Notification No.A.12018/20/80-APT(B) dt. 22.1.1990 read with Notification No.A.12031/1/88-P&AR(ARW) dt. 16.8.1999 issued in Mizoram Gazette Vol.XIX dt. 22.1.1990 Issue No.5(D) for Agriculture Extension Officer and its equivalent posts.
  - 2) Notification No.A.12018/11/2003-P&AR(GSW) dt. 14.12.2004 issued in Mizoram Gazette Vol. XXXIII dt. 21.12.2004 Issue No. 373 for Sub-Divisional Agril. Officer and its equivalent posts.
  - 3) Notification No.A.12018/11/2003-P&AR(GSW) dt. 14.12.2004 issued in Mizoram Gazette Vol. XXXIII dt. 21.12.2004 Issue No. 374 for Subject Matter Specialist etc.
  - 4) Notification No.A. 12018/73/80-APT(B) dt. 17.8.1987 issued in Mizoram Gazette Vol. XVI dt. 17.8.1987 Issue No. 85(A) for Director of Agriculture/Joint Director/Deputy Director etc./District Agricultural Officers etc.
  - 5) Notification No. A. 12018/73/80-APT(B) dt. 22.6.1990 issued in Mizoram Gazette Vol. XXXIII dt. 29.6.1990 Issue No. 55 for Joint Director (LUB).
  - 6) Notification No.A. 12018/73/80-APT(B)/Vol-I dt 21.10.1999 issued in Mizoram Gazette Vol. XXVIII dt 25.10.1999
- Provided that all orders made or action taken under the Rules so repealed or under any General orders ancillary thereto shall be deemed to have been validly made or taken under the corresponding provisions of these rules.
- Interpretation** 23. If any question relating to the interpretation of these rules arises, it shall be decided by the Government and such decision shall be final and binding.

By order and in the name of the Governor of Mizoram

Sd/-  
**Lalbiakluanga Khiangte,**  
 Secretary to the Govt. of Mizoram,

**SCHEDULE - I**

Method of recruitment, selection for promotion and the minimum qualifying service in the immediate lower grades from appointment/promotion of officers to various grades in the Mizoram Agriculture Service.

<i>Sl. No.</i>	<i>Grade</i>	<i>Name of posts</i>	<i>Scale of Pay</i>	<i>Method of recruitment</i>	<i>Field of selection and the minimum qualifying service for promotion</i>
1.	Grade-I (Group 'A' Gazetted)	1) Director of Agriculture (Crop Husbandry) and 2) Director of Agriculture (Research & Education)	Rs. 14300-400-18300/- (+750 Spl. Allowance) - do -	Promotion by selection	The post shall be filled up from amongst the members of the Agriculture Service Grade-II who have rendered at least 5 years regular service in Grade-II, failing which at least 20 years of regular service of which, at least 3 years should be in Grade-II and should be B.Sc (Agri) Degree and above holder.
2.	Grade-II (Group 'A' Gazetted)	Joint Director of Agriculture and its equivalent post	Rs. 14300-400-18300	Promotion by selection	The post shall be filled up from amongst the member in Grade-III who have rendered at least 5 years regular service in Grade-III
3.	Grade-III (Group 'A' Gazetted)	Deputy Director and its equivalent posts	Rs. 12000-375-16500	Promotion by selection	The post shall be filled up from amongst the members in Grade-IV who have rendered at least 5 years regular service in Grade-IV
4.	Grade-IV (Group 'A' Gazetted)	Sub-divisional Agril. Officer and its equivalent posts	Rs. 10000-325-15200/-	Promotion by selection	The post shall be filled up from amongst the members in Grade-V who have rendered at least 5 years regular service in Grade-V 10% of the total strength shall be reserved for Promotion from ITC/BAT holders and 90% shall be reserved for B. Sc (Agri.) Degree Holders.
5.	Grade-V (Group-B Gazetted)	Agriculture Extension Officers and its equivalent	Rs. 7450-225-11500/-	(a) 33 1/3% by Promotion  (b) 66 2/3% by Direct Recruitment	33 1/3% of the posts shall be filled up by promotion from Asst. Agril. Inspector (AAI)/ Sr. Gram Sevak having trained in ITC/ BAT by Selection and as specified in schedule-III appended to this rule.  66 2/3% of the post shall be filled up by direct recruitment as and when vacancies occur through the Mizoram Public Service Commission from amongst the candidates holding B. Sc. (Agri.) Degree and above from a Recognised University and as specified in Schedule-III appended.

**SCHEDULE - II**  
Authorised strength under the Mizoram Agriculture Service.

<i>Sl.No.</i>	<i>Garde</i>	<i>Name of Existing Posts</i>	<i>Numbers of Posts</i>
1.	Grade - I (Group 'A' Gazetted)	Director of Agriculture (Crop Husbandry) and Director of Agriculture (Research & Education)	2
2.	Grade - II (Group 'A' Gazetted)	Joint Director of Agriculture/Joint Director (MMA)/ Principal, ITC	3
3.	Grade - III (Group 'A' Gazetted)	i) Deputy Director (Planning) ii) Deputy Director (Extension) iii) Deputy Director (Soil Survey) iv) Deputy Director (Agro) v) Deputy Director (R&E) vi) Deputy Director (Farm & Quality seed) vii) Plant Protection Officer viii) DAO Aizawl ix) DAO Mamit x) DAO Saiha xi) DAO Kolasib xii) DAO Serchhip xiii) DAO Lawngtlai xiv) DAO Champhai xv) DAO Lunglei xvi) Vice Principal, ITC	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
<b>Total</b>			<b>16</b>
4.	Grade-IV (Group 'A' Gazetted)	i) SDAO (s) Aizawl ii) SDAO (s) Kolasib iii) SDAO (s) Lunglei iv) SDAO Hnahthial v) SDAO Tlabung vi) SDAO Khawzawl vii) SDAO Tuipang viii) SDAO Kawrtethawveng ix) SDAO Zawlnuam x) SDAO Bilkhawthlir xi) SDAO Mamit xii) SDAO Darlawn xiii) SDAO Chawngte xiv) A.S.S.O. xv) Asst. Soil Chemist xvi) Asst. Plant Protection Officer xvii) S.M.S (PP-2, Agro-3, RS-1, SS-2, SC-1, Forestry-1) xviii) Insecticide Analyst xix) S.O-cum-S.A xx) Seed Analyst xxi) ITC Instructor	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 1 1 10 1 1 1 2
<b>Total</b>			<b>32</b>



5.	Grade - V (Group 'A' Gazetted)	Agriculture Extension Officer and other equivalent SAS-I posts.	
		i) Agril. Marketing Officer	1
		ii) Agril. Extension Officer	48
		iii) Agril. Inspector	10
		iv) Farm Supervisor	1
		v) Sr. Soil Surveyor	5
		vi) Asst. Agril. Information Officer	1
		vii) Analytical Assistant	5
		viii) Technical Assistant (SS & SC)	6
		ix) Farm Manager	1
		x) Sr. Technical Assistant	1
		<b>Total</b>	<b>79</b>
		<b>Total</b>	<b>132</b>

**SCHEDULE - II (SHEET - 1)**

Reserves :-

1)	Leave reserve	=	10%	=	10/100x132	=	13.2	=	13
2)	Deputation	=	10%	=	10/100x132	=	13.2	=	13
3)	Training reserve	=	10%	=	10/100x132	=	13.2	=	13
<b>TOTAL</b>								=	<b>39</b>

TOTAL AUTHORISED STRENGTH OF MIZORAM AGRICULTURE SERVICE = **132**

**G.TOTAL = 171**

**SCHEDULE - III**

Minimum Education and other qualifications and particulars required for recruitment to the entry grade in the Mizoram Agriculture Service, Mizoram.

<i>Sl.No.</i>	<i>Name of post (s)</i>	<i>Education and other qualification required</i>
1.	Mizoram Agriculture Service Grade - V (Group 'B' Gazetted)	<u>ESSENTIAL</u>
		<b>'A' FOR PROMOTION</b>
		A.A.I/Sr.G.S. trained in ITC/BAT with 5 years regular service in the grade and A.A.I/Sr.G.S having B.Sc.(Agri/Horti.) Degree with 3 years regular service in the grade.
		<b>'B' FOR DIRECT RECRUITS</b>
		1) B.Sc(Agri.) Degree and above from a recognized University.
		2) Working knowledge of Mizo language with at least Middle School Standard.
		3) Age between 18 years and 35 years the upper age limit is relaxable by 5 years for SC/ST candidates.

**SCHEDULE - IV****SYLLABUS FOR DIRECT RECRUITMENT OF GRADE-V (GROUP 'B' GAZETTED) OF THE MIZORAM AGRICULTURE SERVICE.****I. Details of Syllabus****GENERAL ENGLISH****General English Paper I** : 100 Marks

- |    |  |            |
|----|--|------------|
| a) | Essay writing (Conventional)                                       | : 10 Marks |
| b) | Precis writing (Conventional)                                      | : 15 Marks |
| c) | Letter writing (Conventional)                                      | : 10 Marks |
| d) | Idioms & Phrases (Conventional)                                    | : 10 Marks |
| e) | Expansion of passages (Conventional)                               | : 10 Marks |
| f) | Comprehension of given passages (Conventional)                     | : 10 Marks |
| g) | Grammar : (Objective type)   | : 10 Marks |
|    | Parts of Speech: Nouns, Adjective, Verb, Adverb, Preposition, Etc. |            |
| h) | Compositions (Objective type)                                      | : 15 Marks |
|    | i) Analysis of complex and compound sentences.                     |            |
|    | ii) Transformation of sentences.                                   |            |
|    | iii) Synthesis of sentences.                                       |            |
|    | iv) Correct usage and vocabularies (Objective type)                | : 10 Marks |

**2. TECHNICAL SUBJECT (AGRICULTURE) PAPER-I (OBJECTIVE TYPE) : 150 Marks**

Ecology and its relevance to man, natural resources, their sustainable management and conservation. Physical and social environment as factors of crop distribution and production. Climate elements as factors of crop growth, impact of changing environments. Environmental pollution and associated hazards to crops, animals and humans. Cropping patterns in different agro-climatic zones of the country, impact of high yielding and short-duration varieties on shifts in cropping pattern. Concepts of multiple cropping, multistory, relay and inter-cropping, and their importance in relation to food production. Package of practices for production of important cereals, pulses, oil seeds, fibers, sugar, commercial and fodder crops grown during Kharif and Rabi seasons in different regions of the country.

Weeds : their characteristics, dissemination and association with various crops, their multiplications, cultural, biological and chemical control of weeds.

Soil-physical, chemical, land biological properties. Processes and factors of soil formation, Modern classification of Indian soils, mineral and organic constituents of soil, land, their role in maintaining of soil productivity. Essential plant nutrients and other beneficial elements in soil and plants. Principles of soil fertility and its evaluation for judicious fertilizer use, integrated nutrient management. Losses of nitrogen in soil, nitrogen fixation in soils. Fixation of phosphorus and potassium in soils and the scope for their efficient use. Problem soils and their reclamation methods.

Soil conservation : planning on watershed basis, Erosion and run-off management in hilly, foothills and valley land, processes and factors affecting them, Dry land agriculture and its problems, Technology of stabilizing agriculture production in rain-fed agriculture area.

Water-use efficiency in relation to crop production, criteria for scheduling, irrigations, ways and means of reducing run-off losses of irrigation water. Drip and sprinkler irrigation, Drainage of water logged soils, quality of irrigation water, effect of industrial effluents on soil and water pollution.

Farm Management : scope, importance and characteristics, farm planning, Optimum resources use and budgeting, Economics of different types of farming systems, marketing and pricing of agriculture inputs and outputs, price fluctuations and their cost, types and systems of farming and factors affecting them.

Agriculture extension : its importance and role, methods of evaluation of extension programmes, socio-economic survey and status of big, small and marginal farmers and landless agricultural labourers, farm mechanization and its role in agricultural production and rural employment. Training programmes for extension workers, lab-to-land programmes.

**3. TECHNICAL SUBJECT (AGRICULTURE) PAPER-II (OBJECTIVE TYPE) : 150 Marks**

Seed Technology : its importance. Different kinds of seeds and their seed production, processing techniques, Polyploidy, euploid and aneuploids, Mutation-micro and macro, and their role in crop improvement. Laws of heredity, their significance in plant breeding.

Application and principles of plant breeding to the improvement of major field crops, Role of biotechnology in plant breeding, Improved varieties, hybrids, composites of various crop plants.

Growth and development : photoperiodism and vernalization. Auxins, hormones and other plant regulators, and their mechanism of action and importance in agriculture, Physiology of seed development and germination, dormancy.

Climatic requirements and cultivation of major fruit plants, vegetable crops and flower plants, the package of practices and their scientific basis. Handling and marketing problems of fruit and vegetables. Principal methods of preservation of importance fruits and vegetable products, processing techniques and equipment, Role of fruits and vegetables in human nutrition, Raising of ornamental plants, design and layout of lawns and gardens.

Diseases and pests of field vegetables, orchard and plantation crops of India, Causes and classification of plant pests and diseases, Integrated pest and disease management, Pesticides, their formulation and modes of action, storage pests and diseases of cereals and pulses and control.

Impact of advanced agricultural technology hazards, its adverse effect, sustainable agriculture, need of hour, organic agriculture system, major aims of organic farming, concept, definition, differences between organic and conventional farming, history and needs of organic farming.

Biodynamic agriculture, organic farming versus biodynamic farming, EM, Principles of biodynamic farming, biodynamic preparation, vermi-composting, methods of organic matter recycling: in situ. ex situ, and biological manuring. Useful and adverse effect of organic farming.

Ecological pest management, nitrogen fixing trees, its importance, bio-intensive nutrient management, certification of organic produce.

**4. VIVA VOCE (INTERVIEW) : 50 Marks**

Viva Voce/(Interview) call was purely made on the merit position base of the candidates. Unless regulated by the Examination Regulation the maximum marks carried by an interview will be 50 which was 12.5% of the total marks of 400 in the written examination. The final result will be based on the total of marks a candidates obtained in the written as well as in the interview. Recommendation shall be made in order of merit for the number of vacancies available.