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## SHORT NOTICE

### ADVERTISEMENT FOR THE TECHNICAL POSTS IN AGRICULTURAL TECHNOLOGY MANAGEMENT AGENCY (ATMA) UNDER THE DIRECTORATE OF RESEARCH TRAINING & TECHNOLOGY INDUCTION

The Directorate of Research Training and Technology Induction, Agriculture Department, Government of Meghalaya, invites the online application for eligible and interested candidates for the following post on contractual basis under the Extension Reforms (ATMA) for implementation of the schemes. The detailed vacant post is listed below:-

#### List of vacancies

Sl No.	Name of Post	No. of Post	Consolidated Amount	Essential Qualification
1	Deputy Director	2	Rs.44,000/-	Doctorate or Post Graduate degree in Agriculture, and other allied sector and minimum three years experience
2	Deputy project Director (DPD)	4	Rs.42,000/-	Post Graduate in Agriculture/Allied sectors with research background and minimum two years experience. Local language proficiency is desirable.
3	Block Technology Manager (BTM)	9	Rs.30,000/-	Post Graduate or Graduate in Agriculture/Allied sector with Computer skills. Minimum Two years experience in Agri - related field will be given preferences. Local language proficiency is desirable.
4	Asst. Technology Manager (ATM)	21	Rs.25,000/-	Graduate in Agriculture or allied sector. Local language proficiency is mandatory.

The applicants will have to appear for a written Examination (Multiple choices Question).

**Age Limit:** - 18 years to 27 years as on 13<sup>th</sup> November, 2020, relaxable by 5(five) years in respect of Candidates belonging to Scheduled Tribes as per State Government's reservation policy.

#### 1. Conditions of appointment:-


- I. The posts are co-terminus with the project and will cease as and when Govt. of India terminates the project.
- II. The Remuneration/ Consolidated amount is adopted as per ATMA guidelines.
- III. The required original documents (ST, SC, Marksheet, etc) are to be scanned and submitted online. Application without these documents shall be summarily rejected.
- IV. Applicants who have a working knowledge of Khasi/Jaintia/Garo language will be preferred.

#### 2. General Information:-

1. Applicants should fill their required information in the online application form and submit it online.
2. For the important information or clarification, visit office of the undersigned for Khasi and Jaintia Hills and office of Joint Director, Tura for Garo Hills OR at [www.megagriculture.gov.in](http://www.megagriculture.gov.in).

**3. Last date for receipt of applications:-** Applications will be received upto 13<sup>th</sup> November, 2020 up to 17:00 Hrs. Applications received after that date shall not be considered.

**4. Recruitment of posts will be in accordance with State Government's reservation policy.**

  
**Director of Agriculture (R&T)**  
**Meghalaya, Shillong**

## Syllabus

### Agriculture

#### PART – I

Ecology and its relevance to man, natural resources, their sustainable management and conservation. Physical and social environment as factors of crop distribution and production. Agro-ecology; cropping pattern as indicators of environments. Environmental pollution and associated hazards to crops, animals and humans. Climate change—International, National & State conventions and their initiatives. Greenhouse effect and global warming. Advance tools for ecosystem analysis Remote Sensing (RS) and Geographic Information Systems (GIS).

Cropping patterns in different agro-climatic zones of the state. Impact of high-yielding and short-duration varieties on shifts in cropping patterns. Concepts of various cropping, and farming systems. Organic and Precision farming. Package of practices for production of important cereals, pulses, oil seeds, fibres, sugar, commercial and fodder crops.

Important features and scope of various types of forestry plantations such as social forestry, agro-forestry, and natural forests: Propagation of forest plants. Forest products. Agro-forestry and value addition. Conservation of forest flora and fauna.

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

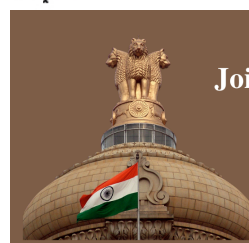
Soil—physical, chemical and biological properties. Processes and factors of soil formation. Soils of India. Mineral and organic constituents of soils and their role in maintaining soil productivity. Essential plant nutrients and other beneficial elements in soils and plants. Principles of soil fertility, soil testing and fertiliser recommendations, integrated nutrient management and application of biofertilizers. Losses of nitrogen in soil, nitrogen-use efficiency in submerged rice soils, nitrogen fixation in soils. Efficient Phosphorus and Potassium use. Problem soils and their reclamation. Soil factors affecting greenhouse gas emission.

Soil conservation, integrated watershed management. Soil erosion and its management. Dry land agriculture and its problems. Technology for stabilising agriculture production in rainfed areas.

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

Farm management, scope, importance and characteristics, farm planning. Optimum resource use and budgeting. Economics of different types of farming systems. Marketing management strategies for development, market intelligence. Price fluctuations and their cost; role of cooperatives in agricultural economy; types and systems of farming and factors affecting them. Agricultural price policy. Crop Insurance.

Agricultural 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; Training programmes for extension workers. Role of KrishiVigyanKendra's (KVK) in dissemination of Agricultural technologies. Non-Government Organisation (NGO) and self-help group approach for rural development.



## PART – II

Cell structure, function and cell cycle. Synthesis, structure and function of genetic material. Laws of heredity. Chromosome structure, chromosomal aberrations, linkage and crossover, and their significance in recombination breeding. Polyploidy, euploids and aneuploids. Mutation—and their role in crop improvement. Heritability, sterility and incompatibility, classification and their application in crop improvement. Cytoplasmic inheritance, sex-linked, sex-influenced and sex-limited characters.

History of plant breeding. Modes of reproduction, selfing and crossing techniques. Origin, evolution and domestication of crop plants, center of origin, law of homologous series, crop genetic resources—conservation and utilization. Application of principles of plant breeding, improvement of crop plants. Molecular markers and their application in plant improvement. Pure-line selection, pedigree, mass and recurrent selections, combining ability, its significance in plant breeding. Heterosis and its exploitation. Somatic hybridization. Breeding for disease and pest resistance. Role of interspecific and intergeneric hybridization. Role of genetic engineering and biotechnology in crop improvement. Genetically modified crop plants.

Seed production and processing technologies. Seed certification, Seed testing and storage. DNA finger printing and seed registration. Role of public and private sectors in seed production, and marketing. Intellectual Property Rights (IPR) issues, WTO issues and its impact on Agriculture.

Principles of Plant Physiology with reference to plant nutrition, absorption, translocation and metabolism of nutrients. Soil-water-plant relationship.

Enzymes and plant pigments; photosynthesis—modern concepts and factors affecting the process, aerobic and anaerobic respiration; C3, C4 and CAM mechanisms. Carbohydrate, protein and fat metabolism. Growth and development; photoperiodism and vernalization. Plant growth substances and their role in crop production. Physiology of seed development and germination; dormancy. Stress physiology—draught, salt and water stress.

Major fruits, plantation crops, vegetables, spices and flower crops. Package practices of major horticultural crops. Protected cultivation and high tech horticulture. Post-harvest technology and value addition of fruits and vegetables. Landscaping and commercial floriculture. Medicinal and aromatic plants. Role of fruits and vegetables in human nutrition.

Diagnosis of pests and diseases of field crops, vegetables, orchard and plantation crops and their economic importance. Classification of pests and diseases and their management. Integrated pest and diseases management. Storage pests and their management. Biological control of pests and diseases. Epidemiology and forecasting of major crop pests and diseases. Plant quarantine measures. Pesticides, their formulation and modes of action.

Food production and consumption trends in India and Meghalaya. Food security and growing population—vision 2025. Reasons for grain surplus. State, National and International food policies. Production, procurement, distribution constraints. Availability of foodgrain, per capita expenditure on food. Trends in poverty, Public Distribution System and Below Poverty Line population, Targeted Public Distribution System (PDS), policy implementation in context to globalization. Processing constraints. Relation of food production to National Dietary Guidelines and food consumption pattern. Food based dietary approaches to eliminate hunger. Nutrient deficiency—Micro nutrient deficiency: Protein Energy Malnutrition or Protein Calorie Malnutrition (PEM or PCM), Micro nutrient deficiency and HRD in context of work capacity of women and children. Food grain productivity and food security.