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APPENDIX - I

SCHEME AND SYLLABUS OF EXAMINATION FOR THE PURPOSE OF FILLING UP THE POST OF ASSISTANT ENGINEER (AGRICULTURE) IN THE SIKKIM STATE AGRICULTURE SERVICE

1. The examination will consist of 2 papers:-

PAPERS	SUBJECT	FULL MARKS	TIME ALLOWED
PAPER-I	General English & General Knowledge	100 MCQ & Conventional	2.00 hours.
PAPER-II	Agriculture Engineering	300 MCQ & Conventional	3.00 hours.
VIVA-VOCE		- 50 marks	

2. PAPER-I: GENERAL ENGLISH

The question will be designed to test the candidate's understanding and command of the English language. The patterns of questions would be broadly as follows:-

1. Comprehension of given passage.
2. Précis writing.
3. Usages and Vocabulary.
4. Essay.

General Knowledge:

1. Current events of Local, National & International importance.
2. National level Schemes & Projects undertaken by Government of India.

PAPER-II: AGRICULTURE ENGINEERING

The questions will be conventional type and will cover areas of knowledge of the following subject and topics:-

1. Soil and Water Conservation ; Definition and scope of soil conservation, mechanics and types of soil erosion, their causes, Hydrologic cycle, rainfall and runoff-factors affecting them and their measurements, stream gauging-evaluation of runoff from rainfall, erosion control measure-Biological and Engineering.

Basic open channel hydraulic, design of soil conservation structures-terraces, bunds, outlets and grassed waterways, principles of flood control, flood routing. Design of farm ponds and earth dams, stream bank erosion and control. Wind erosion and its control principles of watershed management. Investigation and planning in River Valley Projects.

3. Irrigation and drainage-soil-water-plant relationships, sources and types of irrigation. Planning and design of minor irrigation projects. Techniques of measuring soil moisture.

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Duty of water-consumptive use. Water requirements of crops measurements and cost of irrigation water, measuring devices-flow through orifices, wires and flurnes leveling and layouts of irrigation systems, design and construction of canals, field channels, pipe lined head gates diversion boxes structures and road crossing. Occurrence of ground water. Hydraulies of wells. Types of wells, their construction and drilling methods. Well development, testing of wells.

Drainage - Definition - causes of water logging, methods of drainage, drainage of irrigated lands. Design of surface and sub-surface systems.

3. Building materials - Kinds of building materials, their properties, timber brickwork and R.C. Construction design of column beams, roof trusses, joints. Layout of a farmstead, design of farm houses, animal shelters and storage structures, rural water supply and sanitation.

Farm power and machinery - Construction of different types of internal combustion engines. Ignition fuel lubrication cooling and governing system of IC engines. Different types of tractors. Chasis transmission and steering farm machinery for primary and secondary tillage seeding machinery interculture tools and machinery plant protection equipment. Harvesting and threshing equipment machinery for land development. Pumps and pumping machinery.

Electricity and rural electrification - Power generation of transmission, distribution of electricity for rural electrification, AC & DC circuit.

Uses of electric energy on the farm electric motors used in agriculture - types, selection and maintenance.

APPENDIX-II

CONDITIONS OF ELIGIBILITY FOR APPEARING IN THE EXAMINATION

In order to be eligible to appear in the Competitive Examination, a candidate must satisfy the following conditions, namely:-

- (1) **Minimum educational qualification** Bachelor in Engineer (Agriculture) from a recognized University.
- (2) **Age** Age between 21 to 40 years for all communities of the State as per Notification No: M (3)/(55)/GEN/DOP/Pt-III Dated: 03/07/2017.
- (3) **Other qualification**
 - (i) Should be conversant with the customs and usages of Sikkim.
 - (ii) Should have knowledge of any of the recognized State languages.
 - (iii) Should have local Employment Card.