KERALA AGRICULTURAL UNIVERSITY

B.Sc (Hons.) Agriculture 2012 & Previous Admissions (Old Scheme)

II Semester Re-Examination-July-2017

Agro.1203 **Irrigation and Water Management (2+1)**

Marks: 80

Time: 3 hours

I **Answer the following/ Define** **(10x1=10)**

1. Soil moisture tension at permanent wilting point.
2. A crop very sensitive to waterlogging.
3. Two most critical stages of water requirement in wheat.
4. Average annual rain fall of Kerala.
5. Hysteresis
6. Irrigation
7. Watershed
8. Available soil water
9. Virtual water
10. The total water potential in India.

II **Write short notes on any TEN** **(10x3=30)**

1. Soil moisture constants
2. Agro techniques to improve water use efficiency.
3. Critical stages of water requirement in rice.
4. Methods of controlling gully erosion.
5. Universal soil loss equation.
6. Methods of wind erosion.
7. Surge irrigation
8. Factors affecting water requirement of crops.
9. What are the main soluble constituents present in irrigation water? Mention the three parameters determining quality of irrigation water.
10. Dry farming and dry land farming.
11. Micro watershed and macro watershed.
12. Puertorican terraces and bench terraces.

III **Answer any SIX** **(6x5=30)**

1. What all factors that affect irrigation requirement of crops and how?
2. Drip irrigation techniques.
3. Different forms of soil erosion by water.
4. Agronomic methods of soil conservation.
5. Watershed management practices-purposes and methods?
6. Land capability classification and its importance.
7. An area of 10 ha is to be irrigated by a pump working for 8 hours a day. The available moisture holding capacity of soil is 16cm/m and depth of root zone is 1m. Irrigation is to be done when 50% of available water in root zone is depleted. Water application efficiency is 70%. Peak use of moisture use by the crop is 4mm. Losses in water conveyance are eligible. Calculate the irrigation period, net depth of water application, depth of water pumped per application and the required capacity of irrigation system in ha-cm/day and l/sec.
8. How can you plan for maximum returns from a rainfed crop?

IV **Write essay on any ONE** **(1x10=10)**

1 Explain the different approaches in scheduling of irrigation.

2 Explain various water harvesting techniques suitable for adoption in Kerala.

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