KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Agri. Engg) 2017Admission
IV Semester Final Examination- June 2019

Iden.2206   **Irrigation Engineering (2+1)**

Marks: 50
Time: 2 hours

1   **Fill up the blanks with a suitable scientific word/value**   **(10x1=10)**

1   In basin irrigation method basin lengths should be limited to .... on very coarse textured soils.

2   Water use efficiency in drip irrigation is ....

3   .... measures the efficiency with which the applied water is being stored within the root zone to be used by plants.

4   The water utilizable by plants is available in soils mainly in the form of.........................

5   The movement of water into saturated zone below root zone is known as ....

6   ....is the process of modifying the surface relief by grading and smoothing to a planned grade.

7   The amount of water held by the soil between field capacity and permanent wilting point is considered as ....

8   ....is the ratio of the actual crop ET to reference crop ET at a specific time.

9   Chute spillway is provided to control the elevation changes ....

10   When an oven-dry soil sample is exposed to atmosphere, it takes up some moisture called ....

II   **Write short notes on ANY FIVE**   **(5x2=10)**

1   Cut-Fill ratio.

2   Factors affecting soil infiltration.

3   Furrow Irrigation and its adaptability.

4   Soil-Plant-Water relationship.

5   Field channel discharge measurement.

6   Irrigation efficiencies.

7   Frequency of Irrigation.

III   **Answer any FIVE of the following.**   **(5x4=20)**

1   What the land levelling stands for? Discuss, with the help of suitable sketches, the contour adjustment method of land levelling.

2   What is irrigation requirement of a crop? Discuss the pro and cons of the direct method of estimation of ET.

3   What do you understand by canal lining? Discuss the various materials of canal lining.

4   Furrow 90 m long and spaced 75 cm apart are irrigated by an initial furrow of two lps. The initial furrow stream reached the lower end of the field in 50 minutes. The size of the stream was then reduced to 0.5 lps. The cut back stream continued for 1 hour. Estimate the average depth of irrigation.

P.T.O

5 Prove that half a square is the best discharging rectangular channel.

6 What is the utility of underground pipe network for water conveyance? Discuss various structures of a underground pipe line.

7 With the help of suitable sketches differentiate between a Diversion and Turnout.

IV   **Answer any ONE of the following**   **(1x10=10)**

1 Constraints of irrigation development in India.

2 Environmental Impact Assessment methods.

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