

**PARUL UNIVERSITY**  
**COLLEGE OF AGRICULTURE**

**B.Sc.(Hons.) Agriculture, Summer 2017 - 18 Examination**

Semester: 2

Subject Code: 20101151

Subject Name: Water Management including Micro irrigation

Date: 19/05/2018

Time: 10: 30am to 1:00pm

Total Marks: 60

**Instructions**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

**Q.1 Do as Directed.****A. Fill in the blanks. (Each of 1.00 marks)****(10)**

1. The attraction of water molecules for solid surface is termed as \_\_\_\_\_
2. \_\_\_\_\_ soil texture has greater quantity of available water.
3. At field capacity all macro pores are filled with \_\_\_\_\_ and micro pores filled with \_\_\_\_\_
4. Field capacity is the \_\_\_\_\_ limit of soil water availability to plants.
5. 1 bar equals to \_\_\_\_\_
6. The negative pressure potential is often termed as \_\_\_\_\_
7. Water that is available to the plants and readily absorbed is \_\_\_\_\_
8. Water requirement of a crop is related to its \_\_\_\_\_
9. \_\_\_\_\_ has lowest quantity of available water.
10. \_\_\_\_\_ % of water absorbed by the plants is used for photosynthesis.

**B. Multiple choice type questions. (Each of 1.00 mark)****(10)**

1. The average rainfall of India has been estimated to be \_\_\_\_\_.  
a)1194mm  
b)1294mm  
c)1394mm  
d)1094mm
2. Attraction of water molecule with each other is called \_\_\_\_\_.  
a)Cohesion  
b)Adhesion  
c)Both  
d)None
3. Irrigation interval is function of \_\_\_\_\_.  
a) Crop  
b) Soil  
c) Both  
d) None
4. The attraction of water molecule for solid surface is termed as \_\_\_\_\_.  
a)Cohesion  
b)Adhesion  
c)Both  
d)None
5. The ratio between the marketable crop yield and the water used in ET is called as \_\_\_\_\_.  
a)Consumptive use efficiency  
b) Water use efficiency  
c)Field water use efficiency  
d) None
6. Transpiration is \_\_\_\_\_.  
a) Evaporation  
b) Water loss from Soil  
c) Water loss from aerial part of plant  
d) Changing of water status
7. At field capacity \_\_\_\_\_.  
a)All macropores are filled with water and micropores are filled with air  
b)All macropores are filled with air and micropores filled with water  
c)Both are filled with air  
d)Both are filled water
8. \_\_\_\_\_ % of water absorbed by the plants is used for photosynthesis  
a) 1%  
b) 10%  
c) 100%  
d) 50%
9. The depth of water required by a crop during its life cycle in the field is called \_\_\_\_\_.  
a) Duty  
b) Delta  
c) Base period  
d) All
10. Corrugation is the type of \_\_\_\_\_ irrigation  
a) Surface  
b) Sub surface  
c) None  
d) Furrow

**Q.2 Do as Directed.**

**A. Define the following. (Any five)**

**(05)**

1. Critical Stage
2. Delta
3. Fertigation
4. Drainage
5. Infiltration
6. Evapo- transpiration
7. Irrigation

**B. Answer the following. (Any Five)**

**(05)**

1. Movement of water into the soil
2. Factors affecting Infiltration Rate
3. Objectives of Irrigation
4. Movement of water into the soil
5. Write down Critical Growth Stages of following crops.  
Rice, Sorghum, Maize, Pigeon pea, Groundnut
6. Factors affecting duty of water
7. Classification of irrigation method

**Q.3 Write short notes. (Any five)**

**(15)**

1. IW/CPE approaches
2. Differentiate: Adsorption and Absorption
3. Differentiate: Available water and Unavailable water
4. Importance of irrigation management .
5. Differentiate: Adhesion and Cohesion
6. Differentiate: Evaporation and Transpiration

**Q.4 Attempt any Three/Long Questions/Example**

**(15)**

1. Write down the components of Drip Irrigation
2. Importance of irrigation Scheduling .
3. Problems of Poor quality water
4. Describe the importance of transpiration