

25/4/19

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B.E. / B.Tech. (Full Time) ARREAR EXAMINATIONS, Apr / May 2019

AGRICULTURAL AND IRRIGATION ENGINEERING

Eighth Semester

AI 8801 Sustainable Agriculture and Food Security

(Regulation 2012)

Time: 3 hrs

Answer ALL Questions

Max Marks: 100

Part – A (10 x 2 = 20 Marks)

- 1) What is the need for food and crop production policies?
- 2) How does *crop insurance policy* benefit the farmers?
- 3) Write the pros and cons of *vertical farming*.
- 4) What are *water markets* and how do they influence sustainability?
- 5) Mention some of the causes for *climate change*.
- 6) List the principles of *organic farming*.
- 7) What is *probability of precipitation*? Mention any two features of it.
- 8) Expand QPF and write a note.
- 9) Indicate any 4 causes of *land degradation*.
- 10) Differentiate Net sown area and Gross cropped area.



Part – B (5 x 16 = 80 Marks)
(Question No. 11 is compulsory)

- 11) a) i) Explain the terms and concepts in *land categorisation*. (9)
 - 12) a) i) Mention the points emphasized in *National Water Policy 2002*. (9)
 - ii) List out the changes proposed in *National Water Policy 2012* in different sectors. (7)
- (OR)
- b) i) Describe the challenges faced in the *water sector*. (10)
 - ii) What is *effective rainfall*? Discuss its significance. (6)
- 13) a) i) Explain the impact of *climate change on agriculture*. (10)

ii) As an agricultural engineer, suggest some methods to reduce the ill effects of climate change on agriculture. (6)

(OR)

b) i) List the demerits of conventional farming and explain how organic farming can effectively serve as an alternative to overcome those demerits. (16)

14) a) i) What are indicators? List the 17 indicators of sustainability of food security. (16)

(OR)

b) i) Define sustainability and list out its objectives. Also explain the steps to be followed to attain sustainability. (16)

15) a) i) List out the action plans to implement the sustainable agricultural practices. (10)

ii) What are the necessary steps to be taken to create a child friendly village? (6)

(OR)

b) i) Explain the policies related to natural resource use. (16)

