B.E DEGREE END SEMESTER EXAMINATION, NOV/DEC - 2011

VII SEMESTER

AGRICULTURE AND IRRIGATION ENGINEERING

AI 9404 IT IN AGRICULTURE SYSTEMS

Time: 3 hours **(Regulation 2008)** **Marks: 100**

Part – A

10 x 2 = 20

Answer ALL questions

1. What is yield mapping (GIS) in agriculture?
2. What is the necessary for remote sensing in irrigation?
3. Differentiate between green house effect and artificial light effect in agriculture.
4. What do you mean by carbon account?
5. How to estimate crop growth reliability?
6. Distinguish between artificial intelligence and knowledge base
7. List the climatic factors that affect the evapo-transpiration.
8. Define dependable flow in a stream.
9. Define expert system.
10. What do you mean by rural development database?

Part - B

5 x 16 = 80

11. (i) Explain the procedure involved in developing decision support system for an agricultural system. **(16)**

12. (a) (i) How to estimate the crop production using the remote sensing technique? **(10)**

(ii) Explain the methods used in creating GIS information system for precision forming? **(6)**

(OR)

12. (b) Explain briefly with neat sketch the procedure adopted in precision forming in an irrigation system. **(16)**

13. (a) Draw the neat sketch of carbon cycle and explain the various external factors that disturbs the natural cycle. **(16)**

(OR)

(b) How the point source water pollution affects the agricultural system? Explain, how the groundwater model will be helpful in controlling the contaminant migration? **(16)**

14. (a) Explain briefly the soil moisture simulation procedure and also indicate with diagram the components of the model. **(16)**

(OR)

14. (b) (i)What is Optimization and write short notes on linear programming? **(8)**

(ii) Explain briefly about reliability analysis of irrigation flow data with respect to head, middle and tail reaches of the distribution system. **(8)**

15. (a) (i) What are all the metrological data to be collected in a weather station in order to identify the climate change? **(9)**

(ii) How to create the database management system for climate change data? **(7)**

(OR)

15. (b) Explain in detail how an expert system is developed in the context of an irrigation tank system? **(16)**

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