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SEAT No. :

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M.Sc.

ENVIRONMENTAL SCIENCE

ENV-402: Watershed Management

(2008 Pattern) (Semester - IV)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *Answers to the two sections should be written in separate books.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *All questions carry equal marks.*
- 4) *All questions are compulsory.*

Q1) Answer any two of the following:

- a) Discuss the various causes of watershed deterioration.
- b) Explain the principles of watershed management.
- c) Describe the characteristics of aerial aspect of watershed.

Q2) Answer any two of the following:

- a) Describe the role of soil characteristics in Land capability classification.
- b) Discuss the format for watershed resource appraisal.
- c) Describe the climatic factors role in land capability classification.

Q3) Explain any two of the following:

- a) Explain the various watershed resources appraisal techniques.
- b) Explain the factors required in planning for watershed protection.
- c) Explain the constraint and management alternatives in watershed planning.

Q4) Write notes on any two of the following:

- a) Geomorphological characteristics of watershed.
- b) Data requirement in watershed resource appraisal.
- c) Planning for rural and integrated watershed development.

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Q5) Answer any two of the following:

- a) Describe the environmental impact of watershed.
- b) Describe the different steps required in environmental regeneration in a watershed.
- c) Describe the different parameters needed in monitoring watershed.

Q6) Answer any two of the following:

- a) Discuss the various techniques for promotion of peoples participation in watershed development.
- b) Discuss in short the hydrological cycle.
- c) Discuss the role of wind in soil erosion processes.

Q7) Explain any two of the following:

- a) Tillage practices and mulching are the conservation measures for aerable land in a watershed . “Explain”.
- b) Reclamation of ravine land is a conservation measures for non-aerable lands in a watershed. “Explain”.
- c) Explain ecosystem management challenges required for monitoring and evaluation of watershed projects.

Q8) Write notes on any two of the following:

- a) Evaluation of self help groups in watershed monitoring.
- b) Sericulture in watershed.
- c) Water harvesting techniques.

