

Total No. of Questions : 8]

SEAT No. :

P4048

[5255]-546

[Total No. of Pages : 2

M.E. (Civil) (Water Resources and Environmental Engg.)
PLANNING AND MANAGEMENT OF WATER RESOURCES
(2013 Course) (501081) (Semester-I)

Time : 3 Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) Answer any five questions from all the questions.*
- 2) Neat diagrams must be drawn wherever necessary.*
- 3) Figures to the right side indicate full marks.*
- 4) Use of Calculator is allowed.*
- 5) Assume suitable data if necessary.*

Q1) a) Explain needs and opportunities planning and management of water resources. **[6]**

b) Explain the system components of water resources planning and management and state various approaches of planning and management of water resources. **[4]**

Q2) a) Comment on planning region and horizon in water resources. **[5]**

b) Explain constraints like non reversibility for development of water resources. **[5]**

Q3) a) Explain various cost benefit study methods for single and multipurpose projects. **[6]**

b) Explain allocation of cost in multipurpose project. **[4]**

Q4) a) Explain in detail flood plain management. **[6]**

b) Discuss allocation of water priority wise while planning and managing water resources. **[4]**

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- Q5)** a) Explain methods to control reservoir sedimentation. [4]
b) Explain any one water doctrine to avoid conflict amongst users. [6]
- Q6)** a) Define resilience index and explain it through adaptive capacity and management aspect. [5]
b) Explain conceptual framework for vulnerability assessment. [5]
- Q7)** a) Enlist two methods to improve the Ground water content to develop the ground water resources in Maharashtra state. [5]
b) Explain how conjunctive use of surface and ground water play Important role in water management. [5]
- Q8)** a) What is 'Inter Basin Water Transfer', enumerate it with suitable example. [4]
b) Explain Basin planning. [6]

