Total No. of printed pages = 2

PG/1st Sem/PCEW 1124

2021

ENVIRONMENTAL DYNAMICS AND CONTROL

Full Marks – 100

Time – Three hours

The figures in the margin indicate full marks for the questions.

Answer any *five* questions.

1. (a) Define simulation. What are the goal of modeling and simulation ? Explain different types of model. 10

   (b) Briefly explain the problems of modeling environmental systems. 10

2. (a) Enumerate how undesirable impacts of developmental projects can be anticipated and also overcome. 5

   (b) Name any four projects requiring environmental clearance. 5

   (c) Differentiate between lumped, semi distributed and distributed models used in hydrological modeling. 10

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3. (a) Explain with flow diagram the steps involves in simulation study. 10

(b) Define model. List and explain three model levels. What is the importance of modelling in environmental management ? 10

4. (a) Mention the advantages and disadvantages of simulation. Explain the term validation and verification. 10

(b) How physically based watershed modeling is done ? Illustrate the step by step procedure. 10

5. (a) Describe the various strategies for disaster risk reduction and adaption. 8

(b) Define system and system environment. List various components of system. Explain how to develop a model. 12

6. (a) Illustrate various hydrological processes from rainfall to runoff in watershed based modeling. Mention different types of hydrologic models with their applications. 10

(b) Describe the various steps in EIA. 10