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# B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

## July 2023 Semester End Main Examinations

**Programme: B.E.**

**Branch: Civil Engineering**

**Course Code: 21CV8PEIWM**

**Course: Integrated Watershed Management**

**Semester: VIII**

**Duration: 3 hrs.**

**Max Marks: 100**

**Date: 08.07.2023**

**Instructions:** 1. Answer any FIVE full questions, choosing one full question from each unit.  
2. Missing data, if any, may be suitably assumed.

<b>UNIT - I</b>			<b>CO</b>	<b>PO</b>	<b>Marks</b>
1	a)	Explain the concept of catchment and its importance.	<i>CO1</i>	<i>PO1</i>	<b>10</b>
	b)	Illustrate the conjunctive use of water resources and rainwater harvesting.	<i>CO1</i>	<i>PO1</i>	<b>10</b>
<b>UNIT - II</b>					
2	a)	Describe the watershed modeling approaches.	<i>CO2</i>	<i>PO1</i>	<b>10</b>
	b)	Interpret the different hydrological processes with a neat sketch.	<i>CO2</i>	<i>PO1</i>	<b>10</b>
<b>OR</b>					
3	a)	Explain the steps in the rainfall-runoff modeling. Elaborate the SCS-CN method for runoff modelling.	<i>CO2</i>	<i>PO1</i>	<b>10</b>
	b)	Describe the estimation of the soil erosion process by an empirical method.	<i>CO2</i>	<i>PO1</i>	<b>10</b>
<b>UNIT - III</b>					
4	a)	Discuss the important water quality parameters and elaborate the water quality monitoring procedure.	<i>CO3</i>	<i>PO1</i>	<b>10</b>
	b)	Discuss environmental guidelines for water quality.	<i>CO3</i>	<i>PO1</i>	<b>10</b>
<b>UNIT - IV</b>					
5	a)	Discuss the parameters involved in flood estimation and management.	<i>CO4</i>	<i>PO1</i>	<b>10</b>
	b)	Discuss flood routing through channels and reservoir.	<i>CO4</i>	<i>PO1</i>	<b>10</b>
<b>OR</b>					

**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

	6	a)	Enumerate the causes of drought and discuss the drought classification. Illustrate drought assessment and classification.	CO4	PO1	<b>10</b>
		b)	Discuss the impact of drought. Also, elaborate on the drought assessment indices.			<b>10</b>
<b>UNIT - V</b>						
	7	a)	Interpret the remote sensing and GIS applications in watershed management.	CO1	PO1	<b>10</b>
		b)	Describe the role of the decision support system in watershed management.			<b>10</b>

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B.M.S.C.E. - EVEN SEM 2022-23