Seat No.:	Englment No
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Subject Code:3160618 Subject Name:Open Channel flow Time:02:30 PM TO 05:00 PM Instructions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. 4. Simple and non-programmable scientific calculators are allowed. MARKS Q.1 (a) Explain the term 'Specific energy in fluid flow'. (b) Explain with example the velocity distribution in open channel. (c) Derive the expressions for the critical depth in channels of various geometric shapes. Q.2 (a) Explain the term 'First Hydraulic Exponent (M)'. (b) Derive the basic equation of continuity for steady and unsteady open channel flow. (c) Write a note on compound channel sections. (d) Explain incipient motion condition for sediment particles. (e) Explain incipient motion condition for sediment particles. (f) Discuss the types of uniform flow computation problems. (g) Explain the concept of shield's analysis for uniform flow. (g) Explain the concept of shield's analysis for uniform flow. (g) Explain the concept of shield's analysis for uniform flow. (g) Explain the concept of equivalent roughness of a channel. (g) Derive the equations of hydraulic mean depth for triangular and trapezoidal channel sections of rigid boundary channels. (g) Explain the concept of equivalent roughness of a channel. (g) Explain the concept of equivalent roughness of a channel. (h) Discuss the permissible velocities in rigid boundary channels. (g) Explain the concept of equivalent roughness of a channel. (h) Discuss the permissible velocities in rigid boundary channels. (h) Discuss the permissible velocities in rigid boundary channels. (h) Discuss the permissible velocities in rigid boundary channels. (h) Discuss the permissible velocities in rigid boundary channels. (h) Discuss the permissible velocities in rigid boundary channels. (h) Discuss the permissible velocities in rigid boundary channels. (h) Discuss the permissible velocities in rigid boundary channels. (h) Discuss the permissible velocities in rigid boundary channel			GUJAKAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VI(NEW) EXAMINATION - WINTER 2022	,
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Q.5 (a) Write a note on location of hydraulic jump.	Q.5	(a)	Write a note on location of hydraulic jump.	03
(b) Explain: Undular jump, weak jump, oscillating jump, steady jump. 04		(b)		
(c) Derive expression for the discharge over circular and trapezoidal sharp-		(c)	•	07

OR

Q.5 (a) Enlist various numerical methods for solving St. Venant equation.

(b) Explain (1) sluice gate (2) Standing wave flume.

03

04

(c)	Derive the equation of motion for GVUF in a prismatic channel.
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