



AQAR Report
2022-23

Criterion II
Teaching Learning and Evaluation

2.2 - Catering to Student Diversity

2.2.1 - The institution assesses students' learning levels and organises special programmes for both slow and advanced learners.

The institute offers the students a uniform learning opportunities and assesses their learning through:

1. Close observation of student's attentiveness and responsiveness in the classrooms and laboratories.
2. Performance in the Mid Session Tests (MSTs) and End-Semester Examinations and
3. Responsiveness to viva-voce questions during continuous evaluation of practical in the laboratories.

Above parameters help the mentors to identify different learning levels of students. Discussions with subject teachers and their feedback further help the mentors to reaffirm the identified students and to decide further line of action.

Programmes for Advanced Learners: Interactive participation in learning and good performance in examinations of the meritorious students draws the attention of the course teachers and the mentors. The advanced learners are enthused to keep up their morale to enhance their academic record. Challenging assignments and projects are given to them to hone up their intellectual caliber, sharpen their inquisitiveness, induce them to experience the thrill of learning and enjoy the pleasure of achievement. They are motivated to showcase their acquired skills and capabilities by participating in techno-cultural events in other institutions of national repute.

Programmes for Slow Learners: The course teachers and the mentors counsel them to free them from inhibitions and instill confidence in them to focus their concentration on studies. The mentors help them to find out the reasons for their poor performance and suggest remedial measures to rectify them. Special care is taken to keep them in mainstream and keep their morale high so that they don't feel themselves inferior to other students in their class.

Sample Assignment for Slow Learners

Amritsar Group of Colleges, Amritsar

(Autonomous College)

Max. Marks = 24

B.Tech (Civil Engineering) - 6th Sem

Hydrology (ACCE - 16604)

ASSIGNMENT - 2 (A)

| Q. No. | Questions to be attempted | CO |
|---------------------------------|---|-----------|
| Section A (2 marks each) | | |
| 1 | List down the climatic factors affecting runoff from a catchment. | CO4 |
| 2 | What physiographic factors can affect the direct runoff ? | |
| 3 | Name the direct and indirect methods used to determine discharge in a stream | CO5 |
| 4 | What are the two approaches to use dilution technique? | |
| 5 | Define Unit Hydrograph. | CO6 |
| 6 | What is the use of S-curve method? | |
| Section B (4 marks each) | | |
| 7 | Differentiate two types of current meters with appropriate diagrams. | CO4 |
| 8 | Write a brief note on dilution technique of estimating stream-flow. | CO5 |
| 9 | Differentiate between Flood hydrograph, direct runoff hydrograph and unit hydrograph. | CO6 |

Sample Assignment for Medium Learners

Amritsar Group of Colleges, Amritsar

(Autonomous College)

Max. Marks = 24

B.Tech (Civil Engineering) - 6th Sem

Hydrology (ACCE - 16604)

ASSIGNMENT - 2 (B)

| Q. No. | Questions to be attempted | CO | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|--|----------|----|-----|-----|-----|-----|----|----|----|----|----|----|-------------------------------|---|----|----|-----|-----|-----|-----|----|----|----|---|-----|
| Section A (2 marks each) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | What is a current meter? On what logic it works? | CO4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Name the automatic methods of stage recording. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Define conveyance of a channel. Also write the expression to compute it. | CO5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | How we measure head loss due to eddies for the flow between two sections on a straight reach of a stream? | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | What is the similarity between ERH and DRH? | CO6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Name the basic assumptions in the theory of unit hydrographs. | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section B (4 marks each) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Present your understanding about estimation of average stream velocity. | CO4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | During a flood flow, the depth of water in a 20m wide rectangular channel is found to be 2.5m and 2.3m at two sections 300m apart. Calculate the average conveyance of the channel if the value of mannings coefficient is 0.025. | CO5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Compute the ordinates of a 9h Unit Hydrograph from a given 3h Unit Hydrograph. <table border="1" style="margin-left: auto; margin-right: auto;"><tr><td>Time (h)</td><td>0</td><td>3</td><td>6</td><td>9</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td></tr><tr><td>Discharge (m³/s)</td><td>0</td><td>45</td><td>96</td><td>142</td><td>155</td><td>145</td><td>115</td><td>80</td><td>55</td><td>25</td><td>0</td></tr></table> | Time (h) | 0 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | Discharge (m ³ /s) | 0 | 45 | 96 | 142 | 155 | 145 | 115 | 80 | 55 | 25 | 0 | CO6 |
| Time (h) | 0 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | | | | | | | | | | | | | | | |
| Discharge (m ³ /s) | 0 | 45 | 96 | 142 | 155 | 145 | 115 | 80 | 55 | 25 | 0 | | | | | | | | | | | | | | | |

Sample Assignment for Advanced Learners

Amritsar Group of Colleges, Amritsar

(Autonomous College)

Max. Marks = 24

B.Tech (Civil Engineering) - 6th Sem

Hydrology (ACCE - 16604)

ASSIGNMENT - 2 (C)

| Q. No. | Questions to be attempted | CO | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|----------|----|-----|-----|-----|----|----------------------|-----|----|----|-----|----|--------------------|--|----|----|----|-----|-----|-----|----|----|----|----|----|---|-----|
| Section A (2 marks each) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Differentiate between prompt interflow and delayed interflow. | CO4 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | What does the coefficient of correlation tell about the acceptability of the rainfall-runoff relationship developed through regression? | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | While using area-velocity method, if first vertical is 2m from the left bank and second vertical is 2m from the first vertical, then calculate the average width of the end segment. | CO5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | What is the principle of working of electromagnetic method of stream-flow measurement? | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | How a DRH is obtained from a flood hydrograph? | CO6 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | How a unit hydrograph is obtained from a flood hydrograph? | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section B (4 marks each) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Develop a linear correlation between rainfall and runoff (without coefficient of correlation) for a given 5 years record as shown below: <table border="1" style="margin-left: auto; margin-right: auto;"><thead><tr><th>Year</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th></tr></thead><tbody><tr><td>Annual Rainfall (cm)</td><td>141</td><td>89</td><td>95</td><td>115</td><td>95</td></tr><tr><td>Annual Runoff (cm)</td><td>78</td><td>29</td><td>25</td><td>52</td><td>27</td></tr></tbody></table> | Year | 1 | 2 | 3 | 4 | 5 | Annual Rainfall (cm) | 141 | 89 | 95 | 115 | 95 | Annual Runoff (cm) | 78 | 29 | 25 | 52 | 27 | CO4 | | | | | | | | |
| Year | 1 | 2 | 3 | 4 | 5 | | | | | | | | | | | | | | | | | | | | | | | |
| Annual Rainfall (cm) | 141 | 89 | 95 | 115 | 95 | | | | | | | | | | | | | | | | | | | | | | | |
| Annual Runoff (cm) | 78 | 29 | 25 | 52 | 27 | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | How the stream-discharge is measured by area-velocity method? | CO5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Two storms of 4h duration having rainfall excess 3cm and 2cm occur successively. Find the resulting DRH if the ordinates of 4h Unit Hydrograph are as given below: <table border="1" style="margin-left: auto; margin-right: auto;"><thead><tr><th>Time (h)</th><th>0</th><th>4</th><th>8</th><th>12</th><th>16</th><th>20</th><th>24</th><th>28</th><th>32</th><th>36</th><th>40</th><th>44</th></tr></thead><tbody><tr><td>Ordinates of 6h-UH (m³/s)</td><td>0</td><td>21</td><td>72</td><td>115</td><td>135</td><td>112</td><td>87</td><td>65</td><td>40</td><td>23</td><td>10</td><td>0</td></tr></tbody></table> | Time (h) | 0 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | 44 | Ordinates of 6h-UH (m ³ /s) | 0 | 21 | 72 | 115 | 135 | 112 | 87 | 65 | 40 | 23 | 10 | 0 | CO6 |
| Time (h) | 0 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | 44 | | | | | | | | | | | | | | | | |
| Ordinates of 6h-UH (m ³ /s) | 0 | 21 | 72 | 115 | 135 | 112 | 87 | 65 | 40 | 23 | 10 | 0 | | | | | | | | | | | | | | | | |

Sample Allocation of Assignment for Slow, Medium and Advanced Learners

6th Semester Civil Engineering

Hydrology (ACCE - 16604)

Assignment - 2

(Confidential)

only for Faculty

| S.No | Univ. Roll No. | Student Name | Learning Level of the Student | Allocated Assignment set |
|-------------|-----------------------|---------------------|--------------------------------------|---------------------------------|
| 1 | 2000019 | Abhi Jot Singh | Advance | 2C |
| 2 | 2000022 | Ayush Gupta | Medium | 2B |
| 3 | 2000025 | Harpreet Singh | Slow | 2A |
| 4 | 2000026 | Japneet Singh | Slow | 2A |
| 5 | 2000030 | Megha Kumari | Slow | 2A |
| 6 | 2000031 | Mukesh Kumar Yadav | Medium | 2B |
| 7 | 2000035 | Ramanpreet Kaur | Medium | 2B |
| 8 | 2000036 | Randhir Kumar Yadav | Advance | 2C |
| 9 | 2000037 | Ratandeep Singh | Medium | 2B |
| 10 | 2000045 | Vishal Gupta | Medium | 2B |
| 11 | 2028495 | Manik Singh Jangral | Medium | 2B |
| 12 | 2028496 | Meenakshi Jangral | Medium | 2B |
| 13 | 2132008 | Lakshdeep | Slow | 2A |
| 14 | 2132010 | Rishi Raj | Advance | 2C |
| 15 | 2132011 | Vaibhav Ranjan Karn | Medium | 2B |