

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

Moodbidri

COURSE BOOK



Period of the Semester : From 29 Jul 2019 To 30 Nov 2019

CV--A

Subject with Code: HYDROLOGY AND IRRIGATION
ENGINEERING

15CV73

Time Slot

MON:		
WED:	14:30 - 15:20	
FRI	: 13:40 - 14:30	
	TUE :	09:50 - 10:40
	THU :	09:00 - 09:50
	SAT :	
		14:30 - 15:20

Name of the Teacher : Ms Veena D Savanth

<i>AJET</i>	<i>Lesson Plan & Execution</i>	
<i>Name of the Faculty</i>	<i>Ms Veena D Savanth</i>	
	<i>CV--A</i>	
<i>Date of Commencement</i>	<i>29 Jul 2019</i>	
<i>Last working day of Semester</i>	<i>30 Nov 2019</i>	
<i>Source Material List</i>		
1		Sharma R.K, "Irrigation Engineering and Hydraulics", Oxford & IBH Publishing Co., NewDelhi
2		VenTe Chow, "Applied Hydrology", Tata McGraw Hill Publishers, New Delhi
3		Modi P.N "Water Resources and Water Power Engineering"-Standard book house, Delhi
4		Garg S.K, "Irrigation Engineering and Hydraulic Structures" Khanna publications, New Delhi
<i>Course Outcome List</i>		
1		Understand the importance of hydrology and its components
2		Measure precipitation and analyze the data and analyze the losses in precipitation
3		Estimate runoff and develop unit hydrographs
4		Find the benefits and ill-effects of irrigation
5		Find the quantity of irrigation water and frequency of irrigation for various crops

capacity design the canal and compute the reservoir capacity

Find the canal capacity, design the canal and compute the cost of construction.

HYDROLOGY AND IRRIGATION ENGINEERING

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Subject Name

Period	Planned		Execution	
	Date	Topic	Date	Topic
Module 1				
1	30 Jul 2019	Introduction	30 Jul 2019	Introduction
2	30 Jul 2019	Introduction, Importance of hydrology, Global and Indian water availability	30 Jul 2019	Importance of hydrology, Global and Indian water availability
3	31 Jul 2019	Practical application of hydrology	31 Jul 2019	Practical application of hydrology
4	1 Aug 2019	Hydrologic cycle (Horton 's) qualitative and engineering representation	1 Aug 2019	Hydrologic cycle (Horton 's) qualitative and engineering representation
5	2 Aug 2019	Definition, Forms and types of precipitation	2 Aug 2019	Hydrologic cycle (Horton 's) qualitative and engineering representation
6	6 Aug 2019	measurement of rain fall using Symon 's and Syphon type of rain gauges	6 Aug 2019	Definition, Forms and types of precipitation
7	6 Aug 2019	optimum number of rain gauge stations, consistency of rainfall data (double mass curve method)	6 Aug 2019	Definition, Forms and types of precipitation
8	7 Aug 2019	estimation of missing data, presentation of precipitation data	7 Aug 2019	measurement of rain fall using Symon 's and Syphon type of rain gauges
9	8 Aug 2019	moving average curve, mass curve	8 Aug 2019	measurement of rain fall using Symon 's and Syphon type of rain gauges
10	9 Aug 2019	rainfall hyetographs	9 Aug 2019	consistency of rainfall data (double mass curve method)
11	13 Aug 2019	estimation of missing data	13 Aug 2019	optimum number of rain gauge stations
12	13 Aug 2019	optimum number of rain gauge stations	13 Aug 2019	estimation of missing data, presentation of precipitation data, consistency of rainfall data (double mass curve method)
Module 2				
13	14 Aug 2019	Introduction, Process	14 Aug 2019	moving average curve, mass curve

Period	Planned			Execution		
	Date	Topic	Source material to be referred	Date	Topic	Source material to be referred
14	16 Aug 2019	factors affecting evaporation	REF 1 REF 2 REF 3 REF 4	16 Aug 2019	rainfall hyetographs	REF 4
15	20 Aug 2019	measurement using IS class-A Pan	REF 1 REF 2 REF 3 REF 4	20 Aug 2019	estimation of missing data	REF 4
16	20 Aug 2019	estimation using empirical formulae (Meyer 's and Rohwer 's equations) Reservoir evaporation and control	REF 1 REF 2 REF 3 REF 4	20 Aug 2019	optimum number of rain gauge stations	REF 4
17	21 Aug 2019	Introduction, Consumptive use	REF 1 REF 2 REF 3 REF 4	21 Aug 2019	Introduction, Process	REF 4
18	22 Aug 2019	AET, PET	REF 1 REF 2 REF 3 REF 4	22 Aug 2019	factors affecting evaporation	REF 4
19	23 Aug 2019	Factors affecting, Measurement	REF 1 REF 2 REF 3 REF 4	23 Aug 2019	measurement using IS class-A Pan	REF 4
20	27 Aug 2019	Estimation by Blaney-Criddle equation	REF 1 REF 2 REF 3 REF 4	27 Aug 2019	estimation using empirical formulae (Meyer 's and Rohwer 's equations) Reservoir evaporation and control	REF 4
21	27 Aug 2019	Introduction, factors affecting infiltration capacity	REF 1 REF 2 REF 3 REF 4	27 Aug 2019	estimation using empirical formulae (Meyer 's and Rohwer 's equations) Reservoir evaporation and control	REF 4
22	28 Aug 2019	measurement by double ring infiltrometer	REF 1 REF 2 REF 3 REF 4	28 Aug 2019	Introduction, Consumptive use	REF 4
23	29 Aug 2019	Horton 's infiltration equation	REF 1 REF 2 REF 3 REF 4	29 Aug 2019	AET, PET	REF 4
24	30 Aug 2019	infiltration indices	REF 1 REF 2 REF 3 REF 4	30 Aug 2019	Factors affecting, Measurement	REF 4
Module 3						
25	3 Sep 2019	Definition, concept of catchment	REF 1 REF 2 REF 3 REF 4	30 Aug 2019	Estimation by Blaney-Criddle equation	REF 4
26	3 Sep 2019	factors affecting runoff	REF 1 REF 2 REF 3 REF 4	4 Sep 2019	Estimation by Blaney-Criddle equation	REF 4

Period	Planned			Execution		
	Date	Topic	Source material to be referred	Date	Topic	Source material to be referred
27	4 Sep 2019	rainfall – runoff relationship using regression analysis	REF 1 REF 2 REF 3 REF 4	4 Sep 2019	Introduction, factors affecting infiltration capacity	REF 4
28	5 Sep 2019	rainfall – runoff relationship using regression analysis	REF 1 REF 2 REF 3 REF 4	5 Sep 2019	measurement by double ring infiltrometer	REF 4
29	6 Sep 2019	Definition, components of hydrograph	REF 1 REF 2 REF 3 REF 4	6 Sep 2019	measurement by double ring infiltrometer, measurement by double ring infiltrometer	REF 4
30	11 Sep 2019	base flow separation	REF 1 REF 2 REF 3 REF 4	11 Sep 2019	Horton 's infiltration equation	REF 4
31	12 Sep 2019	unit hydrograph	REF 1 REF 2 REF 3 REF 4	12 Sep 2019	infiltration indices	REF 4
32	13 Sep 2019	assumption	REF 1 REF 2 REF 3 REF 4	13 Sep 2019	infiltration indices	REF 4
33	17 Sep 2019	application and limitations	REF 1 REF 2 REF 3 REF 4	17 Sep 2019	Definition, concept of catchment	REF 1 REF 2 REF 3 REF 4
34	17 Sep 2019	derivation from simple storm hydrographs	REF 1 REF 2 REF 3 REF 4	18 Sep 2019	factors affecting runoff	REF 1 REF 2 REF 3 REF 4
35	18 Sep 2019	S curve and its computations	REF 1 REF 2 REF 3 REF 4	24 Sep 2019	rainfall – runoff relationship using regression analysis	REF 1 REF 2 REF 3 REF 4
36	24 Sep 2019	Conversion of UH of different durations	REF 1 REF 2 REF 3 REF 4	24 Sep 2019	rainfall – runoff relationship using regression analysis	REF 1 REF 2 REF 3 REF 4
Module 4						
37	25 Sep 2019	Definition, Definition	REF 1 REF 2 REF 3 REF 4	25 Sep 2019	Definition, components of hydrograph	REF 1 REF 2 REF 3 REF 4
38	26 Sep 2019	Benefits and ill effects of irrigation	REF 1 REF 2 REF 3 REF 4	25 Sep 2019	base flow separation	REF 1 REF 2 REF 3 REF 4
39	27 Sep 2019	System of irrigation: surface and ground water	REF 1 REF 2 REF 3 REF 4	26 Sep 2019	unit hydrograph	REF 1 REF 2 REF 3 REF 4

Period	Planned			Execution		
	Date	Topic	Source material to be referred	Date	Topic	Source material to be referred
40	1 Oct 2019	flow irrigation	REF 1 REF 2 REF 3 REF 4	1 Oct 2019	assumption	REF 1 REF 2 REF 3 REF 4
41	1 Oct 2019	lift irrigation	REF 1 REF 2 REF 3 REF 4	9 Oct 2019	application and limitations	REF 1 REF 2 REF 3 REF 4
42	3 Oct 2019	Bandhara irrigation	REF 1 REF 2 REF 3 REF 4	10 Oct 2019	derivation from simple storm hydrographs	REF 1 REF 2 REF 3 REF 4
43	4 Oct 2019	Duty, delta and base period	REF 1 REF 2 REF 3 REF 4	11 Oct 2019	S curve and its computations	REF 1 REF 2 REF 3 REF 4
44	9 Oct 2019	delta and base period	REF 1 REF 2 REF 3 REF 4	15 Oct 2019	Conversion of UH of different durations	REF 1 REF 2 REF 3 REF 4
45	10 Oct 2019	relationship between them	REF 1 REF 2 REF 3 REF 4	15 Oct 2019	Conversion of UH of different durations	REF 1 REF 2 REF 3 REF 4
46	11 Oct 2019	factors affecting duty of water crops and crop seasons in India	REF 1 REF 2 REF 3 REF 4	17 Oct 2019	Definition, Definition	REF 1 REF 2 REF 3 REF 4
47	15 Oct 2019	irrigation efficiency	REF 1 REF 2 REF 3 REF 4	22 Oct 2019	Benefits and ill effects of irrigation	REF 1 REF 2 REF 3 REF 4
48	15 Oct 2019	frequency of irrigation	REF 1 REF 2 REF 3 REF 4	31 Oct 2019	System of irrigation: surface and ground water	REF 1 REF 2 REF 3 REF 4
Module 5						
49	16 Oct 2019	Types of canals, Alignment of canals	REF 1 REF 2 REF 3 REF 4	5 Nov 2019	flow irrigation	REF 1 REF 2 REF 3 REF 4
50	17 Oct 2019	Definition of gross command area, cultural command area	REF 1 REF 2 REF 3 REF 4	5 Nov 2019	lift irrigation	REF 1 REF 2 REF 3 REF 4
51	18 Oct 2019	intensity of irrigation, time factor	REF 1 REF 2 REF 3 REF 4	6 Nov 2019	Bandhara irrigation	REF 1 REF 2 REF 3 REF 4
52	22 Oct 2019	crop factor, Unlined and lined canals	REF 1 REF 2 REF 3 REF 4	7 Nov 2019	Duty, delta and base period	REF 1 REF 2 REF 3 REF 4
53	22 Oct 2019	Standard sections	REF 1 REF 2 REF 3 REF 4	8 Nov 2019	delta and base period	REF 1 REF 2 REF 3 REF 4

Period	Planned			Execution		
	Date	Topic	Source material to be referred	Date	Topic	Source material to be referred
54	23 Oct 2019	Design of canals by Lacey's and Kennedy's method	REF 1 REF 2 REF 3 REF 4	8 Nov 2019	relationship between them	REF 1 REF 2 REF 3 REF 4
55	29 Oct 2019	Definition, investigation for reservoir site	REF 1 REF 2 REF 3 REF 4	11 Nov 2019	factors affecting duty of water crops and crop seasons in India	REF 1 REF 2 REF 3 REF 4
56	29 Oct 2019	Definition, storage zones determination of storage capacity using mass curves	REF 1 REF 2 REF 3 REF 4	12 Nov 2019	irrigation efficiency	REF 1 REF 2 REF 3 REF 4
57	30 Oct 2019	investigation for reservoir site	REF 1 REF 2 REF 3 REF 4	12 Nov 2019	frequency of irrigation	REF 1 REF 2 REF 3 REF 4
58	31 Oct 2019	storage zones determination of storage capacity using mass curves	REF 1 REF 2 REF 3 REF 4	13 Nov 2019	Types of canals, Alignment of canals	REF 1 REF 2 REF 3 REF 4
59	5 Nov 2019	economical height of dam	REF 1 REF 2 REF 3 REF 4	13 Nov 2019	Definition of gross command area, cultural command area	REF 1 REF 2 REF 3 REF 4
60	5 Nov 2019	economical height of dam	REF 1 REF 2 REF 3 REF 4	14 Nov 2019	intensity of irrigation, time factor	REF 1 REF 2 REF 3 REF 4
61				15 Nov 2019	crop factor, Unlined and lined canals	REF 1 REF 2 REF 3 REF 4
62				19 Nov 2019	Standard sections	REF 1 REF 2 REF 3 REF 4
63				19 Nov 2019	Design of canals by Lacey's and Kennedy's method	REF 1 REF 2 REF 3 REF 4
64				19 Nov 2019	Definition, investigation for reservoir site	REF 1 REF 2 REF 3 REF 4
65				20 Nov 2019	Definition, storage zones determination of storage capacity using mass curves	REF 1 REF 2 REF 3 REF 4
66				20 Nov 2019	investigation for reservoir site	REF 1 REF 2 REF 3 REF 4
67				21 Nov 2019	storage zones determination of storage capacity using mass curves	REF 1 REF 2 REF 3 REF 4
68				21 Nov 2019	economical height of dam	REF 1 REF 2 REF 3 REF 4
69				22 Nov 2019	economical height of dam	REF 1 REF 2 REF 3 REF 4
70				29 Nov 2019	economical height of dam	REF 1 REF 2 REF 3 REF 4

Module No.	# of Classes Planned(till date)	Planned Effort(till date)	# of Classes Executed(till date)	Actual Effort (till date)	% Coverage
1	16	13hrs 20min	16	13hrs 20min	100.0
2	16	13hrs 20min	16	13hrs 20min	100.0
3	13	10hrs 50min	13	10hrs 50min	100.0
4	12	10hrs 0min	12	10hrs 0min	100.0
5	13	10hrs 50min	13	10hrs 50min	100.0

100%

Faculty in charge


HOD's Signature
H.O.D.

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Signature of Principal (&remark if any)