

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH



PROGRESS REGISTER Session-2022-2023

Discipline: Civil Engg.

Semester: 4th

Subject: HYDRAULICS AND IRRIGATION ENGINEERING

Name of the Teaching Faculty: RAJESH KUMAR SAHU

Subject: HYDRAULICS & IRRIGATION
EN 66

No. of Days/per week class allotted 04

Semester From Date : 14-02-23 To Date : 23-05-23 No. of Weeks : 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
14-02-23	Properties of fluid Density, specific gravity	Properties of fluid Density, specific gravity	Discuss about various properties	RHS
15-02-23	surface tension capillarity	Surface tension capillarity	Uses & solve diff problems	RHS
17-02-23	viscosity and their uses	viscosity & their uses	Problems on viscosity	RHS
20-02-23	Pressure & its measurement Intensity of pressure	Pressure & its measurement, Intensity of pressure	Pressure types & problems discussing	RHS
21-02-23	Atm. pressure, Gauge pressure, Absolute pressure, Vacuum pressure	Atm. pr., Gauge pr., Absolute pressure vacuum pressure	Discuss about various types of pressure	RHS
22-02-23	Rel ⁿ between atm abs. gauge pressures	Rel ⁿ between atm abs gauge pressure	Relationship discussion & problems	RHS
24-02-23	Pressure gauge and pressure head	Pressure gauge & pressure head	Pressure gauge & pressure head & numericals	RHS
25-02-23	Pressure ^{exerted by an} immersed surface, Total pressure Resultant pressure	Pressure exerted in an immersed surface Total pressure. Resultant pr.	Discuss about Total pressure & Resultant pressure	RHS
27-02-23	Resultant pressure in horizontal and vertical surface	Resultant pressure in horizontal & vertical surface	Resultant pressure in horizontal & vertical surface	RHS
28-02-23	Total pressure expression Kinematics, Rate of discharge	Total pressure expression Kinematics Rate of discharge	Kinematics, Introduction & problems.	RHS
01-03-23	Continuity eq ⁿ . Total energy of a liq. in motion.	Continuity eq ⁿ Total energy of a liq in motion	Continuity eq ⁿ Total energy of a liq. in motion.	RHS

Subject: HYDRAULICS & IRRIGATION ENGINEERING

No. of Days/per week class allotted 04

Semester From Date : 14-02-23

To Date : 23-05-23

No. of Weeks : 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
03-03-23	Potential, kinetic & pressure Bernoulli's theorem	Potential, kinetic & pressure Bernoulli's theorem	Pressure line problem Describe about the concepts	Raj
04-03-23	Limitation and practical application	Limitation and practical application	Limitation & practical application	Raj
06-03-23	Flow over notches, weirs, Discharge through notches & weirs Application	Flow over notches, weirs, Discharge through notches & weirs, application	Describe about notches & weirs & Discharge through it, application	Raj
08-03-23	Types of flow. Uniform, non-uniform, Laminar turbulent, Steady & unsteady flow	Types of flow, uniform, non-uniform Laminar, Turbulent steady, unsteady flow	Describe about Diff types of flow & their characteristics	Raj
10-03-23	Reynold's no. application Head loss, major & minor Friction & Darcy's eqn	Reynold's no. application Head loss, major & minor Friction & Darcy's eqn	Describe about various topics like Reynold's no, minor & major head loss friction & Darcy's eqn	Raj
11-03-23	Total Energy line, Hydraulic gradient line.	Total energy line Hydraulic gradient line	Problems on TEL, HGL	Raj
13-03-23	Flow through open channel Rect, Trapezoidal, circular	Flow through open channel, Rect, Trapezoidal, circular	Channel description & flow over them.	Raj
14-03-23	Discharge formula Chezy's, Manning's eqn	Discharge formula Chezy's, Manning's eqn	Describe about different discharge formula	Raj
15-03-23	Economical section pumps, Basic principle	Economical section pumps, Basic principle	Describe about economical section Basic principle of pumps.	Raj
17-03-23	operation, Discharge, Horse power, Efficiency	operation, Discharge H.P., efficiency	operation, Discharge, H.P. Efficiency	Raj
18-03-23	Hydrology cycle Rainfall types, Intensity, Hyetograph	Hydrology cycle Rainfall types, Intensity, Hyetograph	Hydrology cycle Rainfall types, Intensity, Hyetograph	Raj

Subject: HYDRAULICS & IRRIGATION ENGRG No. of Days/per week class allotted 04

Semester From Date : 14-02-23 To Date : 23-05-23 No. of Weeks : 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
20-03-23	Estimation of rainfall rain gauge	Estimation of rainfall rain gauge	Rainfall estimation Formula Rain gauge	PNJ
21-03-23	Rain gauge types Catchment area Concept	Rain gauge types Catchment area Concept	Types of rain gauge Catchment area	PNJ
22-03-23	Runoff types, flood discharge Dickens's & Ryves's formula	Runoff types, flood discharge Dickens's & Ryves's formula.	Types of runoff Dickens's formula Ryves's formula	PNJ
24-03-23	Irrigation, benefit necessity, crop season	Irrigation, benefit necessity crop season	Irrigation, benefit necessity. crop season	PNJ
25-03-23	Delta, base period & their relationship	Delta, base period & their relationship	Delta, base period & their relationship.	PNJ
27-03-23	overlap allowance Kharif & Rabi crops	overlap allowance Kharif & Rabi crops	overlap allowance crop season Solway problem	PNJ
28-03-23	GCA, CLA, intensity of irrigation, Time factor, crop ratio	GCA, CCA intensity of irrigation, time factor, crop ratio	GCA, CCA intensity Time factor, crop ratio	PNJ
29-03-23	Flow irrigation, canal irrigation Types of irrigation canal	Flow irrigation, canal irrigation Types of irrigation canal	Types of irrigation canal, brief description	PNJ
31-03-23	Loss of water in canal, perennial irrigation	Loss of water in canal, perennial irrigation	water losses, Perennial irrigation	PNJ
01-04-23	Components of irrigation canal & their function	Components of irrigation canal & their function.	Irrigation canal Components & their function.	PNJ
03-04-23	Sketches of different canal cross section	Sketches of diff. canal cross section	Canal cross section sketches	PNJ

Subject: HYDRAULICS & IRRIGATION ENGG No. of Days/per week class allotted 04

Semester From Date : 14-02-23 To Date : 23-05-23 No. of Weeks : 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
04-04-23	Classification of canal according to alignment	Classification of Canal according to their alignment	Canal alignments various types	RHS
05-04-23	Various types of canal lining	Various types of canal lining	canal Lining Definition, types,	RHS
07-04-23	Adv. & disadvantages of canal Lining	Adv. & disadvantages of canal lining	canal Lining adv & disadvantages.	RHS
08-04-23	Causes & effects of water logging	Causes & effects of water logging	water logging Causes & effects	RHS
10-04-23	Detensim, presentatm & remedies.	Detensim, presentatm Remedies	Detensim, Presentatm Remedies.	RHS
11-04-23	Necessity & objective of Diversion head work & regulatory str.	Necessity & objectives of Diversion head work & reg. str.	regulatory str. types, uses	RHS
12-04-23	weirs & Barrage	weirs & Barrage	Weirs & Barrage & its types	RHS
15-04-23	Layout, function of diff. parts of barrage	Layout, function of diff. parts of barrage	Barrage, layout function.	RHS
17-04-23	Silts & scouring	Silts & Scouring	Silts & Scouring types, process example	RHS
18-04-23	Function of regulatory str.	Function of regulatory str.	Reg. str. types, uses	RHS
19-04-23	Cross drainax work function & necessity	Cross drainax work function & necessity	Cross drainax work function & necessity.	RHS

Subject: HYDRAULICS & IRRIGATION ENGIN

No. of Days/per week class allotted 04

Semester From Date : 14-02-23

To Date : 23-05-23

No. of Weeks : 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
21-04-23	Aqueduct Siphon	Aqueduct siphon	Types of aqueduct	RNG
24-04-23	Super passage, Level Crossing	Super passage, Level crossing	Super passage types, level crossing	RNG
25-04-23	Concept with neat sketches	Concept with neat sketch	Diff. concepts with neat sketch.	RNG
26-04-23	Necessity of storage reservoir	Necessity of storage reservoir	Diff. concepts with neat sketch	RNG
28-04-23	Necessity of storage reservoir	Necessity of storage reservoir	storage reservoir importance necessity	RNG
29-04-23	Types of dams	Types of dams	Dams, its example types.	RNG
01-05-23	Earthen Dams, Types	Earthen Dams Types	Earthen dams Types	RNG
02-05-23	Description & causes of failure	Description & causes of failure	Failure part of dams.	RNG
06-05-23	Protection measures	Protection measures	Protection measures of earthen dam	RNG
08-05-23	Gravity dam Types, description	Gravity dam Types, description	Description of gravity dam	RNG
09-05-23	Causes of failure	Causes of failure	causes & failure of gravity dam	RNG

Subject: HYDRAULICS & IRRIGATION ENGINEERING

No. of Days/per week class allotted 04

Semester From Date : 14-02-23

To Date : 23-05-23

No. of Weeks : 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
10-05-23	Protection measures of gravity dam	Protection measures of gravity dam	Measures of gravity dam	raj
12-05-23	spillways	spillways	Spillways definition	raj
13-05-23	Types of spillways	Types of spillways	Discuss about various types of spillways.	raj
15-05-23	Sketches of spillways various types	sketches of spillways various types	Spillway sketches	raj
20-05-23	spillway necessity	Spillway necessity	Spillway Necessity	raj
22-05-23	Doubtless clearing dam	Doubtless clearing dam	Doubtless clearing dam	raj
23-05-23	Doubtless clearing dam	Doubtless clearing dam	Doubtless clearing dam	raj