# **Environmental Engineering Lab**

# (GR18A3011)

III - B.Tech - I Semester

Dr. Srikanth / Mr. A. Prakash / Mr. C. Vanadeep Associate and Assistant Professors



### **Department of Civil Engineering**

# Gokaraju Rangaraju Institute of Engineering and Technology

Bachupally, Kukatpally, Hyderabad - 500 090. (040) 6686 4440



Gokaraju Rangaraju Institute of Engineering and Technology Department of Civil Engineering Environmental Engineering Lab

### **Course File Check List**

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18	Mid-I and Mid-II question papers	
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Gokaraju Rangaraju Institute Of Engineering And Technology

#### **Department of Civil Engineering**

### **Environmental Engineering Lab - GR18A3011**

III Year B. Tech. CE – I Semester	L	T/P/D	С
(2021-22)	0	-/2/-	2

#### LIST OF EXPERIMENTS

- 1. Determination of pH and Turbidity
- 2. Determination of conductivity and total dissolved salts
- 3. Determination of Alkalinity/Acidity
- 4. Determination of Chlorides
- 5. Determination and Estimation of total solids, organic solids and inorganic solids
- 6. Determination of Iron
- 7. Determination of Dissolved oxygen
- 8. Determination of Nitrogen
- 9. Determination of total phosphorous
- 10.Determination of B.O.D.
- 11.Determination of C.O.D.
- 12. Determination of optimum coagulant dose
- 13. Determination of chlorine demand
- 14.Presumptive coli form test



#### Gokaraju Rangaraju Institute of Engineering and Technology (Autonomous) Bachupally, Hyderabad-500090

#### **DEPARTMENT OF CIVIL ENGINEERING**

III - YEAR (A)

**ROOM NO: 4202** 

W.E.F: 16-08-2021

	1	2	3	4	8
	9:00-10:00	10:10-11:10	11:20-12:20	12:30-1:20	1:20-2:20
Monday					
Tuesday					
Wednesday				LUNCH BREAK	
Thursday					
Friday	EE Lab				
Saturday	EE Lab				

CODE	Subject	Faculty
GR18A3011	Environmental Engineering Lab	Mr. A. Prakash / Mr. C. Vanadeep

CLASS COORDINATOR

#### PROGRAMME COORDINATOR

HOD



#### Gokaraju Rangaraju Institute of Engineering and Technology (Autonomous) Bachupally, Hyderabad-500090

#### DEPARTMENT OF CIVIL ENGINEERING

III - YEAR (B)

#### **ROOM NO: 4202**

W.E.F: 16-08-2021

	1	2	3	4	8
	9:00-10:00	10:10-11:10	11:20-12:20	12:30-1:20	1:20-2:20
Monday					
Tuesday					
Wednesday				LUNCH BREAK	
Thursday				2102101	
Friday		EE Lab			
Saturday		EE Lab			

CODE	Subject	Faculty	
GR18A3011	Environmental Engineering Lab	Dr K Srikanth / Mr. C Vanadeep	

CLASS COORDINATOR

#### PROGRAMME COORDINATOR

HOD



#### Bachupally, Kukatpally, Hyderabad - 500 090. (040) 6686 4440

#### **Programme Educational Objectives**

- 1. Graduates of the program will be successful in technical and professional career of varied sectors of Civil Engineering.
- 2. Graduates of the program will have proficiency to analyse and design real time Civil Engineering projects.
- 3. Graduates of the program will exhibit management and leadership qualities with good communication skills facilitating to work in a multidisciplinary team.

#### **Programme Outcomes**

Graduates of the Civil Engineering programme will be able to

- a. Apply knowledge of mathematics, science and fundamentals of Civil Engineering.
- b. Analyse problem and interpret the data.
- c. Design a system component, or process to meet desired needs in Civil Engineering within realistic constraints.
- d. Identify, formulate, analyse and interpret data to solve Civil Engineering problems.
- e. Use modern engineering tools such as CAD and GIS for the Civil Engineering practice.
- f. Understand the impact of engineering solutions in a global, economic and societal context.

g.Understand the effect of Civil Engineering solutions on environment and to demonstrate the need for sustainable development.

- h. Understanding of professional and ethical responsibility.
- i. Work effectively as an individual or in a team and to function on multi-disciplinary context.
- j. Communicate effectively with engineering community and society.
- k. Demonstrate the management principles in Civil Engineering projects.
- 1. Recognize the need for and an ability to engage in life-long learning.

#### **Programme Specific Outcomes**

1. Recognize the need for a sustainable environment and design smart infrastructure considering the global challenges.

2. Create and develop innovative designs with new era materials through research and development.



Bachupally, Kukatpally, Hyderabad – 500 090. (040) 6686 4440

### **COURSE OBJECTIVES**

Academic Year :	2021-2022			
Semester :	Ι			
Name of the Program:	B. Tech	Year: III Year	Section: A / B	
Course/Subject :	Environmen	tal Engineering Lab	Course Code : GR18A3011	
Name of the Faculty : Dr. K. Srikanth / Mr. A. Prakash / Mr. C Vanadeep				
<b>Designation:</b> Associate/As	sistant Profess	or	<b>Dept.:</b> Civil Engineering	

On completion of this Subject/Course the student shall be able to:

1.	Gain knowledge in various parameters of water.
2.	Identify the significance to conduct experiments on water purity.
3.	Explain current environmental issues through laboratory experiments.
4.	Prepare the students to excel in experiment research Programme or to succeed in industry
5	Develop problem solving and laboratory skills using modern instrumentation

#### Signature of HOD

Signature of faculty

Date:

Date:



Bachupally, Kukatpally, Hyderabad – 500 090. (040) 6686 4440

# **COURSE OUTCOMES**

Academic Year	:	2021-2022		
Semester	:	Ι		
Name of the Program	1:	B.Tech	Year: III Year	Section: A / B
Course/Subject	:	Environmental	Engineering Lab	Course Code : GR18A3011
Name of the Faculty	:	Dr. K. Srikanth	n / Mr. A. Prakash / M	r. C Vanadeep
Designation: Associat	te/Assi		Dept.: Civil Engineering	

On completion of this Subject/Course the student shall be able to:

Outco	mes
1. Develop skills in low cost water treatment	methods.

2. Describe the knowledge of physical, chemical and biological parameters of water and their importance

3. Develop the social responsibility to eradicate water borne diseases.

4. Recognize the methods to control environmental pollution.

5. Develop ability to work effectively in teams

6. Express water quality parameters in written reports

7. Generalize the various quality control aspects of industrial effluents by performing the

Signature of HOD

Signature of faculty

Date:

Date:



### **COURSE SCHEDULE**

Academic Year :	2021-2022				
Semester :	Ι				
Name of the Program:	B.Tech	Year: III Year	Section: A / B		
Course/Subject :	Environme	ntal Engineering Lab	Course Code : GR18A3011		
Name of the Faculty : Dr. K. Srikanth / Mr. A. Prakash / Mr. C Vanadeep					
Designation: Associate/Assistant Professor					

The Schedule for the whole Course / Subject is:

S.NO	DATE	EXPERIMENT NAME
1	20/08/2021	Determination of pH
2	21/08/2021	Determination of Turbidity
3	27/08/2021	Determination of Conductivity
4	28/08/2021	Determination of Total dissolved solids.
5	03/09/2021	Determination of Alkalinity/Acidity.
6	04/09/2021	Determination of Chlorides
7	10/09/2021	Determination and Estimation of total solids
8	11/09/2021	Determination and Estimation of Organic solids
9	17/09/2021	Determination and Estimation of Inorganic solids.
10	18/09/2021	Determination of iron.
11	24/09/2021	Determination of Dissolved Oxygen.
12	25/09/2021	Determination of Nitrogen.
13	01/10/2021	Determination of totalPhosphorous.
14	02/10/2021	Determination of B.O.D
15	08/10/2021	Determination of C.O.D
16	09/10/2021	Determination of Optimum coagulant dose.
17	15/10/2021	Determination of Chlorine demand.
18	16/10/2021	Presumptive coliform test.
19	22/10/2021	Video Lectures on Determination of pH & Turbidity
20	23/10/2021	Video Lectures on Determination of Conductivity
21	29/10/2021	Video Lectures on Determination of Total dissolved solids.
22	30/10/2021	Video Lectures on Determination of Alkalinity/Acidity.
23	05/11/2021	Video Lectures on Determination of Chlorides
24	06/11/2021	Video Lectures on Determination and Estimation of total solids, Organical and Inroganic Solids
25	12/11/2021	Video Lectures on Determination of iron.
26	13/11/2021	Video Lectures onDetermination of Dissolved Oxygen.
27	19/11/2021	Video Lectures on Determination of Nitrogen & Total Phosphorous
28	20/11/2021	Video Lectures on Determination of B.O.D and C.O.D

29	26/11/2021	Video Lectures on Determination of Optimum coagulant dose.
30	27/11/2021	Video Lectures on Determination of Chlorine demand.
31	03/12/2021	Video Lectures on Presumptive coliform test.
32	04/12/2021	Determination of pH & Turbidity & Conductivity
33	10/12/2021	Determination of Total dissolved solids, Alkalininty/ Acidity, Chlorides
34	11/12/2021	Determination and Estimation of total solids
35	17/12/2021	Determination of Iron, D.O
36	18/12/2021	Determination of Nitrogen, Phosphorous
37	24/12/2021	Determination of B.O.D , C.O.D, Optimum Coagulant Dose
38	25/12/2021	Determination of Chlorine demand.
39	31/12/2021	Presumptive coliform test.
40	01/01/2022	Revision
41	07/01/2022	Revision
42	08/01/2022	Lab Internal Exam

1. Total No. of Instructional periods available for the course:75 Hours / Periods



### Gokaraju Rangaraju Institute of Engineering and Technology Department of Civil Engineering SCHEDULE OF INSTRUCTIONS

Academic Year :	2021-2	2022				
Semester	:	Ι				
Name of the Program	n:	B. Tech	Year: III Year	Section: A / B		
Course/Subject	:	Environmental	l Engineering Lab	Course Code : GR18A3011		
Name of the Faculty : Dr. K. Srikanth / Mr. A. Prakash / Mr. C Vanadeep						
<b>Designation:</b> Associate/Assistant Professor						

The Course plan for the whole Course / Subject is:

	Logon		No of Ot		<b>Objectives &amp;</b>	References
Exercise.	No.	Date	Periods	<b>Topics / Sub-Topics</b>	Outcomes	(EE Lab Manual)
	110.		I CHOUS		Nos.	Page Nos.:to
	1.		3	Determination of pH and Turbidity	COB's - 1,2 CO's - 1,5	5
1.	2.		3	Determination of conductivity and total dissolved salts	COB's - 1,2 CO's - 1,5	12
	3.		3	Determination of Alkalinity/Acidity	COB's - 1,2,3,4 CO's - 1,2,5	14
	4.		3	Determination of Chlorides	COB's - 1,2,3,4 CO's - 1,2,5	20
2.	5.		3	Determination and Estimation of total solids, organic solids and inorganic solids	COB's - 1,2,3,4 CO's - 1,2,5	23
	6.		3	Determination of Iron	COB's - 1,2,3,4 CO's - 1,2,5	26
	7.		3	Determination of Dissolved oxygen	COB's - 1,2,3,4	28

				CO's	-	
				1,2,5		
	8.		Determination of	COB's	-	
		3	Nitrogon	1,3,5		32
		5	Nittogen	CO's	-	52
				1,2		
	9.			COB's	-	
3		3	Determination of total	1,3,5		34
5.		5	phosphorous	CO's	-	51
				1,2		
	10.			COB's	-	
		3	Determination of B.O.D.	.O.D. 1,3,5		36
	5		CO's	-	20	
				1,2		
	11.		Determination of C.O.D.	COB's	-	
		3		1,3,5		43
		5		CO's	-	
				1,2		
	12.		Determination of	COB's	-	
		3	optimum coagulant dose	1,3,5		47
		C C	optimum coaguiant dose	CO's	-	
4.				1,2		
	13.			COB's	-	
		3	Determination of	1,3,5		50
			chlorine demand	CO's	-	
				1,2		
	14.			COB's	-	
		3	Presumptive coli form	1,3,5		51
			test	CO's	-	-
				1,2		

Signature of HOD Date:

Signature of faculty Date:



Academic Year :	2021-2022				
Semester :	Ι				
Name of the Program:	B.Tech	Year: III Year	Section: A / B		
Course/Subject :	Environme	ntal Engineering Lab	Course Code : GR18A3011		
Name of the Faculty :	Dr. K. Srik	anth / Mr. A. Prakash /	Mr. C Vanadeep		
Designation:       Associate/Assistant Professor         Lesson No:1       Duration of Lesson: 3 hr					

Lesson Title: Determination of pH and Turbidity

#### **INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

1. Know pH and turbidity of drinking water, bore water, industrial water

**TEACHING AIDS** : Lab Manual, Demonstration.

:

#### TEACHING POINTS

- This test is performed to determine pH of water
- This test is performed to determine turbidity of water
- pH and turbidity are used to determine the quality of water

Assignment / Questions: CObj: 1,2 CO 1,5

- 1. Define Ph.
- 2. Define turbidity.



Academic Year	:	2021-2022				
Semester	:	Ι				
Name of the Program	n:	B.Tech	Year: III Year	Section: A / B		
Course/Subject	:	Environmental	l Engineering Lab	Course Code : GR18A3011		
Name of the Faculty	:	Dr. K. Srikanth	h / Mr. A. Prakash / M	r. C Vanadeep		
Designation: Associate/Assistant Professor						
Lesson No:2	Durati	on of Lesson: <u>3</u>	<u>8 hr</u>			
Lesson Title: Determination of conductivity and total dissolved salts						

#### **INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Know the conductivity and total dissolved salts present in water

#### **TEACHING AIDS** :Lab Manual, Demonstration.

#### **TEACHING POINTS** :

- This test is performed to determine conductivity of water
- Conductivity is used to know the amount of dissolved salts present in water

#### Assignment / Questions: CObj: 1,2 CO 1,5

1. Define conductivity and its importance.



Academic Year	:	2021-2022				
Semester	:	Ι				
Name of the Program	n:	B.Tech	Year: III Year	Section: A / B		
Course/Subject	:	Environmental	l Engineering Lab	Course Code : GR18A3011		
Name of the Faculty	:	Dr. K. Srikantl	h / Mr. A. Prakash / M	r. C Vanadeep		
Designation: Associate/Assistant Professor						
Lesson No: <u>3</u>	Durati	ion of Lesson: <u>3</u>	<u>3 hr</u>			
Lesson Title: Determination of Alkalinity/Acidity						

#### **INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Know about acidity or alkalinity present in water

#### **TEACHING AIDS** : Lab Manual, Demonstration.

#### **TEACHING POINTS** :

- This test is performed to determine acidity of water
- This test is performed to determine alkalinity of water
- Used to know the quality of water

Assignment / Questions: CObj: 1,2,3,4 CO 1,2,5
1.Define acidity and its importance.
2.Define alkalinity and its importance



Academic Year	:	2021-2022				
Semester	:	Ι				
Name of the Program	n:	B.Tech	Year: III Year	Section: A / B		
Course/Subject	:	Environmental	Engineering Lab	Course Code : GR18A3011		
Name of the Faculty	:	Dr. K. Srikantl	h / Mr. A. Prakash / M	r. C Vanadeep		
Designation: Associate/Assistant Professor						
Lesson No: <u>4</u>	Durati	ion of Lesson:	<u>3 hr</u>			
Lesson Title: Determination of Chlorides						

#### **INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Know about chlorides present in water

#### **TEACHING AIDS** : Lab Manual, Demonstration.

:

#### TEACHING POINTS

- This test is performed to determine chlorides of water
- Used to determine quality of water

Assignment / Questions: Assignment / Questions: **CObj: 1,2,3,4 CO 1,2,5** 1. What is the range of chlorides present in water?



Academic Year	:	2021-2022		
Semester	:	Ι		
Name of the Program	n:	B.Tech	Year: III Year	Section: A / B
Course/Subject	:	Environmental	l Engineering Lab	Course Code : GR18A3011
Name of the Faculty	:	Dr. K. Srikantl	h / Mr. A. Prakash / M	r. C Vanadeep
Designation: Associa	te/Assis	stant Professor		
Lesson No: <u>5</u>	Durati	on of Lesson:	<u>8 hr</u>	
Lesson Title: Determ	ination	and Estimation	of total solids, organic	c solids and inorganic solids

#### **INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Develop & understand the concept of total solids and various types of solids

**TEACHING AIDS** :Lab Manual, Demonstration.

#### **TEACHING POINTS** :

- This test is performed to determine total solids present in water
- Used to determine quality of water

Assignment / Questions: **CObj: 1,2,3,4 CO 1,2,5** 1.Define total solids, organic and inorganic solids.



Academic Year	:	2021-2022				
Semester	:	Ι				
Name of the Progra	m:	B.Tech	Year: III Year	Section: A / B		
Course/Subject	:	Environmen	tal Engineering Lab	Course Code : GR18A3011		
Name of the Faculty	v :	Dr. K. Srika	nth / Mr. A. Prakash / M	Mr. C Vanadeep		
<b>Designation:</b> Associ	ate/Assi	istant Professo	or			
Lesson No:6	<b>Duration of Lesson:</b> <u>3 hr</u>					
Lesson Title: Determination of Iron						
INSTRUCTIONAL/LESSON OBJECTIVES:						

On completion of this lesson the student shall be able to:

Know about amount of iron present water

**TEACHING AIDS** :Lab Manual, Demonstration.

:

#### TEACHING POINTS

- This test is performed to determine iron present in water
- Used to determine quality of water

Assignment / Questions: CObj: 1,2,3,4 CO 1,2,5

1. What are the reagents required to determine iron



Academic Year	:	2021-2022				
Semester	:	Ι				
Name of the Program	n:	B.Tech	Year: III Year	Section: A / B		
Course/Subject	:	Environmenta	l Engineering Lab	Course Code : GR18A3011		
Name of the Faculty	:	Dr. K. Srikant	h / Mr. A. Prakash / M	r. C Vanadeep		
Designation: Associate/Assistant Professor						
Lesson No: <u>7</u>	Durati	on of Lesson:	<u>3 hr</u>			
Lesson Title: Determination of Dissolved oxygen						

#### **INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Know about dissolved oxygen present in water

#### **TEACHING AIDS** :Lab Manual, Demonstration.

#### **TEACHING POINTS** :

- This test is performed to determine dissolved oxygen present in water
- Used to determine quality of water

#### Assignment / Questions: CObj: 1,2,3,4 CO 1,2,5

1.Define dissolved oxygen



Academic Year	:	2021-2022			
Semester	:	Ι			
Name of the Program	n:	B. Tech	Year: III Year	Section: A / B	
Course/Subject	:	Environmental	Engineering Lab	Course Code : GR18A3011	
Name of the Faculty	:	Dr. K. Srikantl	h / Mr. A. Prakash / M	r. C Vanadeep	
Designation: Associate/Assistant Professor					
Lesson No:8	Durati	on of Lesson:	<u>3 hr</u>		
Lesson Title: Determination of Nitrogen					

#### **INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Know about amount of nitrogen present in water

#### **TEACHING AIDS** : Lab Manual, Demonstration.

#### **TEACHING POINTS** :

- This test is performed to determine nitrogen present in water
- Used to determine quality of water

#### Assignment / Questions: CObj: 1, 3, 5 CO 1,2,6

1. What is the significance of nitrogen present in water?



Academic Year	:	2021-2022			
Semester	:	Ι			
Name of the Program	n:	B. Tech	Year: III Year	Section: A / B	
Course/Subject	:	Environmental	l Engineering Lab	Course Code : GR18A3011	
Name of the Faculty	:	Dr. K. Srikantl	h / Mr. A. Prakash / M	r. C Vanadeep	
Designation: Associate/Assistant Professor					
Lesson No: <u>9</u>	Durati	ion of Lesson:	<u>3 hr</u>		
Lesson Title: Determ	ination	of total phosph	orous		

#### **INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Know about total phosphorous present in water

#### **TEACHING AIDS** :Lab Manual, Demonstration.

#### **TEACHING POINTS** :

- This test is performed to determine total phosphours present in water
- Used to determine quality of water

Assignment / Questions: **CObj: 1, 3, 5 CO 1,2,5** 1.What is the significance of total phosphorus present in water?



Academic Year	:	2021-2022				
Semester	:	Ι				
Name of the Program	n:	B. Tech	Year: III Year	Section: A / B		
Course/Subject	:	Environmental	Engineering Lab	Course Code : GR18A3011		
Name of the Faculty	:	Dr. K. Srikantl	n / Mr. A. Prakash / M	r. C Vanadeep		
Designation: Associate/Assistant Professor						
Lesson No: <u>10</u>	Durati	on of Lesson:	<u>3 hr</u>			
Lesson Title: Determ	Lesson Title: Determination of B.O.D.					

#### **INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Know about B.O.D. present in water

**TEACHING AIDS** :Lab Manual, Demonstration.

**TEACHING POINTS** :

- This test is performed to determine B.O.D. present in water
- Used to determine quality of water

Assignment / Questions: CObj: 1, 3, 5 CO 1,2 1.Define B.O.D.



Academic Year :		2021-2022			
Semester	:	Ι			
Name of the Program	n:	B. Tech	Year: III Year	Section: A / B	
Course/Subject	:	Environmental	Engineering Lab	Course Code : GR18A3011	
Name of the Faculty	:	Dr. K. Srikanth	n / Mr. A. Prakash / M	r. C Vanadeep	
Designation: Associate/Assistant Professor					
Lesson No: <u>11</u>	<b>Duration of Lesson:</b> <u>3 hr</u>				
Lesson Title: Determination of C.O.D.					

#### **INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Know about C.O.D. present in water

# **TEACHING AIDS**: Lab Manual, Demonstration.**TEACHING POINTS**:

- This test is performed to determine C.O.D. present in water
- Used to determine quality of water

Assignment / Questions: CObj: 1, 3, 5 CO 1,2

1.Define C.O.D. and its importance



Academic Year	:	2021-2022			
Semester	:	Ι			
Name of the Program	1:	B. Tech	Year: III Year	Section: A / B	
Course/Subject	:	Environmental	Engineering Lab	Course Code : GR18A3011	
Name of the Faculty	:	Dr. K. Srikantl	n / Mr. A. Prakash / M	r. C Vanadeep	
Designation: Associate/Assistant Professor					
Lesson No: <u>12</u>	Duration of Lesson: <u>3 hr</u>				
Lesson Title: Determination of optimum coagulant dose					

#### **INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Know about optimum coagulant dose

**TEACHING AIDS** :Lab Manual, Demonstration.

:

#### TEACHING POINTS

- This test is performed to determine optimum coagulant dose
- Used to determine quality of water

Assignment / Questions: **CObj: 1, 3, 5 CO 1,2** 1.What is the significance of optimum coagulant dose?



Academic Year	:	2021-2022			
Semester	:	Ι			
Name of the Program	n:	B. Tech	Year: III Year	Section: A / B	
Course/Subject	:	Environmental	Engineering Lab	Course Code : GR18A3011	
Name of the Faculty	:	Dr. K. Srikanth	n / Mr. A. Prakash / M	r. C Vanadeep	
Designation: Associate/Assistant Professor					
Lesson No: <u>13</u>	Duration of Lesson: <u>3 hr</u>				
Lesson Title: Determination of chlorine demand					

#### **INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Know about chlorine demand of water

**TEACHING AIDS** :Lab Manual, Demonstration.

#### **TEACHING POINTS** :

- This test is performed to determine chlorine demand of water
- Used to determine quality of water

Assignment / Questions: **CObj: 1, 3, 5 CO 1,2** 1. Define chlorine demand.



Academic Year	:	2021-2022			
Semester	:	Ι			
Name of the Program	n:	B. Tech	Year: III Year	Section: A / B	
Course/Subject	:	Environmental	l Engineering Lab	Course Code : GR18A3011	
Name of the Faculty	:	Dr. K. Srikantl	h / Mr. A. Prakash / M	r. C Vanadeep	
Designation: Associate/Assistant Professor					
Lesson No: <u>14</u>	Durati	on of Lesson:	<u>3 hr</u>		
Lesson Title: Presumptive coli form test					

#### **INSTRUCTIONAL/LESSON OBJECTIVES:**

On completion of this lesson the student shall be able to:

Know about coli form test.

**TEACHING AIDS**: Lab Manual, and Demonstration.**TEACHING POINTS**:

• Used to determine presence of coli form in water

Assignment / Questions: CObj: 1,3,5 CO 1,2,5

1. What is the significance of coli form test?



# Gokaraju Rangaraju Institute of Engineering and Technology Department of Civil Engineering COURSE COMPLETION STATUS

Academic Year :	2021-2022				
Semester :	Ι				
Name of the Program:	B. Tech Year: III Year	Section: A			
Course/Subject :	Environmental Engineering Lab	Course Code : GR18A3011			
Name of the Faculty :	Mr. A. Prakash / Mr. C Vanadeep				
Designation: Assistant Professor					

Actual Date of Completion & Remarks, if any

Units	Remarks	No. of Objectives Achieved	Outcomes Achieved
Exercise - I	Covered on time	1	1,2,5
Exercise – II	Covered on time	2	1,2,5
Exercise – III	Covered on time	3	1,2
Exercise - IV	Covered on time	4	1,2,3

Signature of HOD

Signature of faculty

Date:

Date:

Note: After the completion of each unit mention the number of Objectives & Outcomes Achieved.



# Gokaraju Rangaraju Institute of Engineering and Technology Department of Civil Engineering COURSE COMPLETION STATUS

Academic Year :	2021-2022				
Semester :	Ι				
Name of the Program:	B. Tech Year: III Year	Section: B			
Course/Subject :	Environmental Engineering Lab	Course Code : GR18A3011			
Name of the Faculty :	Dr. K. Srikanth / Mr. C Vanadeep				
Designation: Associate/Assistant Professor					

Actual Date of Completion & Remarks, if any

Units	Remarks	No. of Objectives Achieved	No. of Outcomes Achieved
Exercise - I	Covered on time	1	1,2,5
Exercise – II	Covered on time	2	1,2,5
Exercise – III	Covered on time	3	1,2
Exercise - IV	Covered on time	4	1,2,3

Signature of HOD

Signature of faculty

Date:

Date:



S.No	Reg No	Student Name
1	18241A0151	SOHEB PATEL
2	18241A0152	SRIAM SHIVA ADITYA
3	19241A0101	RUHAIL AHMAD LONE
4	19241A0102	AITHA SAI TEJA
5	19241A0103	BARISETTY SHIVA KARTHIK
6	19241A0104	BENDHI VARUN THEJA GOUD
7	19241A0105	BHUKYA VAMSHI
8	19241A0106	BOGE VENKAT ROHITH
9	19241A0107	BONTHA PRANEETHKUMAR
10	19241A0108	CHILUKA RAHUL
11	19241A0109	DANDI KIRAN
12	19241A0110	DAYYA RAGNESH
13	19241A0111	E MANISH GOUD
14	19241A0112	ERRAM SAI PRIYA
15	19241A0113	G DEEPIKA
16	19241A0114	GORANTALA SAI
17	19241A0115	GUGULOTHU SANTHOSH
18	19241A0116	GURIJALA SAI KUMAR
19	19241A0117	GURUJALA SRIDHAR
20	19241A0118	IRUVANTI HEMANTH KUMAR
21	19241A0119	JANGITI VYSHNAVI

22	4024440420	
22	19241A0120	JARUPLA CHERAN
23	19241A0122	JETTI SREEVANI
24	19241A0123	K SOWMYA
25	19241A0124	KADALI KRISHNASRI SAI
26	19241A0125	KAMAREDDY AKSHAY
27	19241A0126	KATTA SAI KUMAR
28	19241A0127	KOLLURI.TEJASWI
29	19241A0128	KONDAPURAM SRIJA
30	19241A0129	KOTTE VIVEK
31	19241A0130	KRUTHIKA VIJAY PALANGE
32	19241A0131	MADA AKHIL REDDY
33	19241A0132	MADARAM SHRAVAN KUMAR REDDY
34	19241A0133	MADDIGATLA AJAY SAGAR
35	19241A0134	CHANDANA MALPATEL
36	19241A0135	MANDALA CHINNI
37	19241A0136	MIREGILLA VIJAYAKUMAR
38	19241A0137	MOHD OBAID KASHIF
39	19241A0138	NARAPAKA MADHAV KUMAR
40	19241A0139	NIMMALA ARSHITHA
41	19241A0141	P SIDDARTHA
42	19241A0142	PAGIDIPALLY AJAY KUMAR
43	19241A0143	PALLAPU NAVEEN
44	19241A0144	PALLE SANATH KUMAR
45	19241A0145	PANTANGI PRANAY
46	19241A0146	PATIL SWAPNIL

47	19241A0147	POLISETTY SAAHAS
48	19241A0148	S.SAITEJA
49	19241A0149	SAI NEERAJ M
50	19241A0150	SATYA SAI PRASANNA REDDY SOLIPETA
51	19241A0151	SHAIK BILAL
52	19241A0152	SHAIK FIRDOUS AYESHA
53	19241A0153	SOORA VIKAS
54	19241A0154	TELLAM SRI SAI PAVANA ROSHINI
55	19241A0155	THALLAPALLY SWARANYA
56	19241A0156	THUMATI VENKATA VAYUNANDHAN
57	19241A0157	UDUMULA NIKHIL REDDY
58	19241A0158	VELISHALA GAYATHRI
59	5919241A0159VENKATA SIDDHARTHA RAJU VE	
60	19241A0160	YASWANTH KURUVA
61	19241A0161	ABDUL RAHEEM
62	19241A0162	ANEMONI MURALI MANOHAR
63	19241A0163	ASKANY HARISH SAGAR
64	19241A0164	BODLA AKSHITH
65	19241A0165	BURRA VAMSHI KRISHNA
66	19241A0166	CHERLAKOLA AKHILA
67	19241A0167	CHINTAPALLI VIKRAM
68	19241A0168	CHIRRIBOYINA DHANYA
69	19241A0169	D SREE MADHURI
70	19241A0170	GADDAM SAHITHI
71	19241A0171	GAJJALA SUKENDHAR REDDY
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19241A0172	YASHASWI GANGAVARAM
19241A0173	GINDHAM ADITYA KUMAR
19241A0174	GUDHETI NARENDAR REDDY
19241A0175	GUMMADI SAI PRATEEK REDDY
19241A0176	HANMAPUR DHEERAJ GOUD
19241A0177	JAVVAJI AISHWARYA
19241A0178	JULAPALLY NITHIN RAO
19241A0179	K NAVEEN
19241A0180	K RAJESHWARI
19241A0181	KACHAVA SURENDAR
19241A0182	KODATHALA INDU
19241A0183	KOTARU SRINIVASA VARAPRASAD
84 19241A0184 MALOTH RAHUL	
85 19241A0185 MATURI SATHVIK	
19241A0186	MD ABDUL MAAJID
19241A0187	MEDARI DAYANA
19241A0188	NARSINGA SANDEEP
19241A0189	PALANATI ROHITH
19241A0190	PURALASETTY BHAVANA
19241A0191	RODDA MALAVIKA REDDY
19241A0192	SAPRAM NAGA SRILOWKYA MUKTHA
19241A0193	SHAIK PARVEZ ANSARI
19241A0194	SIDDELA THARUN KUMAR
19241A0195	TALARI CHANDANA SREE
19241A0196	VALLEPU KALYAN
	19241A0172         19241A0173         19241A0174         19241A0175         19241A0175         19241A0176         19241A0177         19241A0178         19241A0178         19241A0178         19241A0180         19241A0181         19241A0182         19241A0183         19241A0183         19241A0184         19241A0185         19241A0186         19241A0187         19241A0187         19241A0187         19241A0187         19241A0187         19241A0183         19241A0184         19241A0185         19241A0186         19241A0187         19241A0189         19241A0189         19241A0191         19241A0192         19241A0193         19241A0193         19241A0193         19241A0193         19241A0194         19241A0195         19241A0195         19241A0194         19241A0195         19241A0195

97	19241A0197	VRASHAB PATEL
98	19241A0198	YELLAVULA NARENDER
00	1024140100	
99	19241A0199	BADDELA SAI THARUN
100	20245A0101	Aamanchi Bowmi
101	20245A0102	Aviraboina Sai Chaithanya
102	20245A0103	Bairy B S Anirudh
103	20245A0104	Daddu Tejasree
104	20245A0105	Dopathi Raviteja
105	20245A0106	Eruventi Niharika
106	20245A0107	Gaddamidi Aanil
107	20245A0108	Gandla Rishik Raj
108	20245A0109	Gone Naveen Kumar
109	20245A0110	Kota Vishal
110	20245A0111	Kummari Mahesh
111	20245A0112	Lakavath Anil
112	20245A0113	Madavaram Rohith
113	20245A0114	Mandala Akshitha
114	20245A0115	M Manjunath
115	20245A0116	Porandla Nababhushanam
116	20245A0117	Pulishetty Bhavani
117	20245A0118	Racha Kranthi Ranadeer
118	20245A0119	S Manoj Kumar
119	20245A0120	Samudrala Manideep
120	20245A0121	Sangepaga Goutham
121	20245A0122	Sodadasi Rahul

122	20245A0123	Vanga Harshith
123	20245A0124	Choleti Vineetha
124	20245A0125	Gangula Grishma
125	20245A0126	Bollampalli Sai Poojith
126	20245A0127	Pamulapati Sumanth
127	20245A0128	T Sanghamithra
128	20245A0129	Abeda Akanksha
129	20245A0130	Doppalapudi Ramvineeth Sai
130	20245A0131	Pilly Uday Kiran

Signature of HOD

Signature of faculty

Date:

Date:

1         18241A0151         SOHEP PATEL         22         46         68           2         18241A0152         SRIMS SILVA ADDTYA         6         A8         6           3         19241A0101         RUTHAR, ATTIKA         127         54         91           5         19241A0103         BARISETTY SHIVA KARTHIK         12         30         42           6         19241A0105         BHUKYA VAMSH         122         46         68           8         19241A0105         BHUKYA VAMSH         12         30         42           9         19241A0106         BHUKYA VAMSH         12         30         42           10         19241A0107         BONTHA RANDETHKIMAR         18         44         62           11         19241A0109         DANDI KINAN         25         60         85           12         19241A0110         DANDI KINAN         23         61         84           13         19241A0113         G DEEPKA         23         62         85           14         19241A0113         G DEEPKA         23         62         86           15         19241A0114         G GANTALA SAI KUMAR         12         30         42 <th>S.No</th> <th>Reg No</th> <th colspan="2">Student Name</th> <th>EXTERNAL (70M)</th> <th>Total (100M)</th>	S.No	Reg No	Student Name		EXTERNAL (70M)	Total (100M)
2         18241A0102         SIRAM SIRVA ADTYA         6         A8         6           3         19241A0102         AITHA SAI TEJA         22         30         42           4         19241A0102         AITHA SAI TEJA         27         64         91           5         19241A0104         BENDHI VARUN THEJA GOUD         22         47         69           7         19241A0106         BOUR VENKAT ROHTH         12         30         42           9         19241A0106         BOUR VENKAT ROHTH         12         30         42           9         19241A0108         CITHUKA RAHUT.         12         30         42           10         19241A0108         COUR VENKAT ROHTH         12         30         42           11         19241A0110         DAYYA RAGNESH         12         30         42           13         19241A0112         ERAM SAI PRIVA         23         61         84           13         19241A0114         CORANTIAL SAI         26         63         89           14         19241A0117         GIRUTAL SAI KUMAR         12         30         42           19         19241A0117         GIRUTAL SAI KUMAR         26 <td< td=""><td>1</td><td>18241A0151</td><td>SOHEB PATEL</td><td>22</td><td>46</td><td>68</td></td<>	1	18241A0151	SOHEB PATEL	22	46	68
3         19241A0101         RUTHAL AIMAD LONE         12         30         42           4         19241A0103         BARISETTY SHIVA KAKTHIK         12         30         42           5         19241A0103         BARISETTY SHIVA KAKTHIK         12         30         42           6         19241A0105         BHUKYA VAMSHI         22         46         68           8         19241A0106         BOOR VENKAR TORITH         12         30         42           9         19241A0107         BOORTILA RENNETTIKUMAR         12         30         42           10         19241A0108         CHILIKA RAHUL         12         30         42           11         19241A0110         DANDI RIKAN         25         60         45           12         19241A0111         CHARONEN         23         61         84           13         19241A0113         GUGUDTH         23         61         84           14         19241A0114         GORANTALA SAL         23         62         85           14         19241A0115         GUGUDTH SANTHONH         28         65         93           17         19241A0115         GURUJALA SKIDHARK         12         30	2	18241A0152	SRIAM SHIVA ADITYA	6	AB	6
4         19241A0102         ATTHA SATTEJA         27         64         91           5         19241A0104         BENDHI VARIN THEJA GOUD         22         47         69           7         19241A0106         BUKNAT KOHTH         12         30         42           9         19241A0106         BUKNAT KOHTH         12         30         42           9         19241A0106         BUKNAT KOHTH         12         30         42           10         19241A0106         DOUE VERKAT ROHTH         12         30         42           11         19241A010         DANDI KIRAN         25         66         65           12         19241A0111         EMANISH GOUD         12         31         42           13         19241A0113         GLEAMAN SAIPRIVA         23         61         84           15         19241A0113         GLEANTALA SAI         26         63         89           17         19241A0113         GLEANTALA SAI         26         64         86           18         19241A0114         GLEANTALA SAI         26         60         86           21         19241A0115         GLEQUATALA SAI KUMAR         12         30	3	3 19241A0101 RUHAIL AHMAD LONE		12	30	42
5         19241A0103         BARISETTY SHIVA KARTHIK         12         30         42           6         19241A0105         BHOHT VARIN THEJA GOUD         22         47         69           7         19241A0105         BHOHT VARIN THEJA GOUD         22         46         68           8         19241A0107         BOORE VENKAR TOUITII         12         30         42           9         19241A0107         BONTHA PRANEETHKUMAR         18         44         62           10         19241A0109         DANDI KIRAN         25         60         85           12         19241A0119         DANDI KIRAN         23         61         84           13         19241A0112         ERAM SAI PRIVA         23         61         84           14         19241A0114         GORANTALA SAI         23         62         85           15         19241A0114         GORANTALA SAI         24         26         68         89           17         19241A0115         GUCULOTIU USANTHIOSH         28         66         92         21           19         19241A0116         GURUJALA SKINDHAR         12         30         42         20         19241A0117         19241A0125 <td>4</td> <td>19241A0102</td> <td>AITHA SAI TEJA</td> <td>27</td> <td>64</td> <td>91</td>	4	19241A0102	AITHA SAI TEJA	27	64	91
6         19241A0104         BENDHI VARUN THEJA GOUD         22         47         69           7         19241A0106         BUUKYA VANSHI         22         46         68           8         19241A0106         BOCE VENKAT ROHTH         12         30         42           9         19241A0108         CHILIKA KARIR         18         44         62           10         19241A0108         CHILIKA KARIR         12         30         42           11         19241A0110         DAVYA RAGNESH         12         30         42           13         19241A0111         EMANISH GOLD         12         31         43           14         19241A0113         GDENYKA         23         62         85           14         19241A0113         GDENYKA         23         62         85           15         19241A0113         GUCUATNU SANTHOSH         28         65         93           18         19241A0113         GUCUATNU SANTHOSH         28         64         92           219241A0114         GURALA SAN KUMAR         12         30         42           219241A0115         GUCUATN HERANTH KUMAR         26         61         87	5	19241A0103	BARISETTY SHIVA KARTHIK	12	30	42
7         19241A0105         BHUKYA VAMSHI         22         46         68           8         19241A0107         BOCE VENKAT KOHTTE         12         30         42           9         19241A0107         BONTHA PRANETHKIUMAR         18         44         62           10         19241A0107         BONTHA PRANETHKIUMAR         18         44         62           11         19241A0110         DANYA KAGNESH         12         30         42           13         19241A0110         DANYA KAGNESH         12         30         42           13         19241A0112         ERRAM SAIPRINA         23         61         84           15         19241A0114         GORANTALA SAI         23         62         85           16         19241A0116         GURUJALA SKIRDHAR         12         30         42           20         19241A0116         GURUJALA SKIRDHAR         12         30         42           21         19241A0113         RUCUUJATI KIRDHAR         12         30         42           21         19241A0120         JARUFLA CHERAN         25         63         88           23         19241A0123         KOUUJATI KIRDHAR         26	6	19241A0104	BENDHI VARUN THEJA GOUD	22	47	69
8         19241A0106         BOCE VENKAT ROHTH         12         30         42           10         19241A0107         BONTHA PRANETHKUMAR         18         44         62           11         19241A0108         CHILUKA RAHUL         12         30         42           12         19241A0110         DAVYA RAGNESH         12         30         42           13         19241A0111         EMANISH GOUD         12         31         43           14         19241A0113         GDERYAM         23         62         85           16         19241A0113         GDERYKA         23         62         85           17         19241A0115         GUCULOTIUUSANTHOSH         28         65         93           18         19241A0115         GUCULOTIUUSANTHORN         28         64         92           20         19241A0119         JANGTIVYSINAVT         28         64         92           21         19241A012         JETTI SREVANT         28         63         81           23         19241A0123         K SOWMVA         28         63         91           24         19241A0124         JETTI SREVANI         24         58         82	7	19241A0105	BHUKYA VAMSHI	22	46	68
9         19241A0107         BONTHA PRANEETHKUMAR         18         44         62           10         19241A0108         CHILUKA RAIUL         12         30         42           11         19241A0109         DANDI KRAN         25         60         85           12         19241A0112         EMANISH GOUD         12         31         43           14         19241A0112         EMRAM SAI PRIYA         23         61         84           15         19241A0112         EMRAM SAI PRIYA         23         61         84           15         19241A0114         GORANTALA SAI         26         63         89           17         19241A0116         GUCUOTHU SANTHOSH         28         65         93           18         19241A0116         GURUJALA SKIDHAR         12         30         42           20         19241A0113         RUVANT HEMANTH KUMAR         26         61         87           21         19241A0123         KSOWMYA         28         63         91           21         19241A0123         KAODLI KRISHNASRI SAI         23         60         83           23         19241A0125         KAMAREDDY AKSHAY         12         30<	8	19241A0106	BOGE VENKAT ROHITH	12	30	42
10         19241A0108         CHILUKA RAHUL         12         30         42           11         19241A010         DANDI KIRAN         25         60         85           12         19241A0110         DANDI KIRAN         23         61         84           13         19241A0112         ERAMISAI COUD         12         31         43           14         19241A0113         GDEEPIKA         23         61         84           15         19241A0114         GORANTALA SAI         26         63         89           17         19241A0115         GUGULOTHU SANTHOSH         28         65         93           18         19241A0116         GURIJALA SAI KUMAR         12         30         42           19         19241A0119         JANCITI VYSINAVI         28         64         92           22         19241A0122         IETTI SREEVANI         26         61         87           24         19241A0123         KADMIX KINAR         28         63         91           25         19241A0124         KADALI KININASRI SAI         23         64         92           25         19241A0125         KAMAREDDY AKSHAY         12         30	9	19241A0107	BONTHA PRANEETHKUMAR	18	44	62
11         19241A0109         DAYYA RAONESH         22         30         42           13         19241A0111         EMANISH GOUD         12         31         43           14         19241A0112         ERAM SAI PRIYA         23         61         84           15         19241A0113         GDEEPIKA         23         62         85           16         19241A0114         GORANTALA SAI         26         63         89           17         19241A0116         GUGUCTHVASANTHOSH         28         64         92           19         19241A0116         GURUJALA SAI KUMAR         12         30         42           20         19241A0118         RUVANTI HEMANTH KUMAR         26         60         86           21         19241A0120         JARUPIA CHERAN         25         63         88           23         19241A0123         KSOWMYA         28         63         91           24         19241A0124         KADALI KRISINASRISAI         23         60         83           26         19241A0125         KATTA SAI KUMAR         27         64         91           27         19241A0126         KATTA SAI KUMAR         28         66	10	19241A0108	CHILUKA RAHUL	12	30	42
12         19241A0110         DAYYA RAGNESH         12         30         42           13         19241A0112         ERAMS SALPRIYA         23         61         84           15         19241A0113         GDEPIKA         23         62         85           16         19241A0114         GORANTALA SAL         23         62         85           17         19241A0115         GUGUDTHU SANTHOSH         28         65         93           18         19241A0116         GURIJALA SALKUMAR         12         30         42           19         19241A0117         GURIJALA SALKUMAR         12         30         42           20         19241A0119         IANCHTVYSHMANT         28         64         92           21         19241A0123         IETTI SREEVANI         26         61         87           23         19241A0123         KSOWMYA         28         63         91           24         19241A0125         KAMAREDDY AKSHAY         12         30         42           27         19241A0125         KAMAREDDY AKSHAY         12         30         42           29         19241A0125         KAMAREDDY AKSHAY         12         30	11	19241A0109	DANDI KIRAN	25	60	85
13         19241A0112         EMAMSAI ROVD         12         31         43           14         19241A0113         CRAM SAI PRIYA         23         61         84           15         19241A0113         COERANTALA SAI         23         62         85           16         19241A0115         GUQULOTHU SANTHOSH         28         65         93           18         19241A0116         GURUJALA SAI KUMAR         12         30         42           20         19241A0116         GURUJALA SAI KUMAR         12         30         42           21         19241A0118         RUVANTI HEMANTH KUMAR         26         60         86           21         19241A0120         JARUPLA CHERAN         25         63         88           23         19241A0123         KSOWMYA         28         63         91           25         19241A0124         KAMAREDDY AKSHAY         12         30         42           26         19241A0125         KAMAREDDY AKSHAY         12         30         42           27         19241A0126         KATTA SAI KUMAR         27         64         91           28         19241A0128         KONDAPURAM SRIA         28 <td< td=""><td>12</td><td>19241A0110</td><td>DAYYA RAGNESH</td><td>12</td><td>30</td><td>42</td></td<>	12	19241A0110	DAYYA RAGNESH	12	30	42
14         19241A0113         ERRAM SAI PRIYA         23         61         84           15         19241A0113         G DEEPIKA         23         62         85           16         19241A0115         G DEEPIKA         26         63         89           17         19241A0115         GUCULOTHU SANTHOSH         28         65         93           18         19241A0116         GURUJALA SAI KUMAR         12         30         42           19         19241A0117         GURUJALA SRIDHAR         12         30         42           20         19241A0119         JARUPLA CHERANTH KUMAR         26         60         86           21         19241A0122         JERTTI SREEVANI         28         63         91           24         19241A0123         K SOWMYA         28         63         91           25         19241A0125         KAMAREDDY AKSHAY         12         30         42           26         19241A0125         KATA SAI KUMAR         27         64         91           28         19241A0126         KATTA SAI KUMAR         22         92         19241A0130         KRUTHIKA VUAY PALANGE         21         47         68           3	13	19241A0111	E MANISH GOUD	12	31	43
15     19241A0113     G DEEPIKA     23     62     85       16     19241A0114     GORANTALA SAI     26     63     89       17     19241A0115     GUCULOTHU SANTHOSH     28     65     93       18     19241A0116     GURUALA SAI KUMAR     12     30     42       20     19241A0117     GURUALA SRIDHAR     12     30     42       20     19241A0117     GURUALA SRIDHAR     12     30     42       21     19241A0121     JARGITU YSNANVI     28     64     92       22     19241A0120     JARGITU YSNANVI     28     63     91       23     19241A0121     FITTI SREPVANI     26     61     87       24     19241A0123     K SOWMYA     28     63     91       25     19241A0124     KADALI KNISHNASRI SAI     23     60     83       26     19241A0126     KATTA SAI KUMAR     27     64     91       27     19241A0127     KOLLIKITELASWI     12     30     42       28     19241A0128     KONDAPURAM SRIJA     28     66     94       30     19241A0130     MADDARAM SRIJA     28     66     94       31     19241A0131     MADARAM SRIJA </td <td>14</td> <td>19241A0112</td> <td>ERRAM SAI PRIYA</td> <td>23</td> <td>61</td> <td>84</td>	14	19241A0112	ERRAM SAI PRIYA	23	61	84
16         19241A0114         GORANTALA SAI         26         63         89           17         19241A0115         GUCULOTHU SANTHOSH         28         65         93           18         19241A0116         GURULALA SAI KUMAR         12         30         42           20         19241A0117         GURULALA SAI KUMAR         12         30         42           20         19241A0118         RUVANTI HEMANTH KUMAR         26         60         86           21         19241A0121         JARUPLA CHERAN         25         63         88           22         19241A0122         JETTI SREEVANI         26         61         87           24         19241A0123         KADALI KRSHNASRI SAI         23         60         83           26         19241A0124         KADARI KUMAR         27         64         91           28         19241A0125         KAMARDDY AKSHAY         12         30         42           29         19241A0126         KOTDE VIVEK         12         30         42           29         19241A0131         MADA AKHIL REDDY         17         41         58           31         19241A0132         MADAA AKHIL REDDY         17	15	19241A0113	G DEEPIKA	23	62	85
17         19241A0115         GUGULOTHU SANTHOSH         28         65         93           18         19241A0116         GURILALA SKIDHAR         12         30         42           19         19241A0118         GURILALA SKIDHAR         12         30         42           20         19241A0118         RUVANT HEMANTH KUMAR         26         60         86           21         19241A0123         JARUPLA CHERAN         25         63         88           23         19241A0123         KONMYA         28         63         91           24         19241A0123         KONMYA         28         63         91           25         19241A0125         KAMAREDDY AKSHAY         12         30         42           28         19241A0125         KAMAREDDY AKSHAY         12         30         42           29         19241A0126         KATA SAI KUMAR         24         58         82           29         19241A0126         KONDAPURAM SRIA         28         66         94           30         19241A0127         KOLURLTBJASWI         12         30         42           31         19241A0130         MADTRAM SHRAVAN KUMAR REDDY         17	16	19241A0114	GORANTALA SAI	26	63	89
18         19241A0116         GURUALA SAI KUMAR         12         30         42           19         19241A0117         GURUALA SRIDHAR         12         30         42           20         19241A0118         IRUVANTI HEMANTH KUMAR         26         60         86           21         19241A0120         JARUFLA CHERAN         25         63         88           22         19241A0123         JARUFLA CHERAN         25         63         91           24         19241A0123         KSOWMYA         28         63         91           25         19241A0123         KAMAREDDY AKSHAY         12         30         42           26         19241A0125         KAMAREDDY AKSHAY         12         30         42           27         19241A0125         KONDAPURAM SRUA         28         66         94           30         19241A0127         KOLURITEJASWI         24         58         82           31         19241A0130         KRUTHAMASHEAVAN KUMAR REDDY         17         41         58           33         19241A0130         MADARAM SHRAVAN KUMAR REDDY         27         64         91           33         19241A0133         MADDIACHA ALVIAYAKUMAR	17	19241A0115	GUGULOTHU SANTHOSH	28	65	93
19         19241A011         GUKUJALA SKUPHAK         12         30         42           20         19241A0119         JANGTI YYSINAVI         28         64         92           21         19241A012         JARUFLA CHERAN         25         63         88           22         19241A0123         JARUFLA CHERAN         26         61         87           24         19241A0123         K SOWMYA         28         63         91           25         19241A0124         KADALI KRISHNASRI SAI         23         60         83           26         19241A0125         KAMAREDDY AKSHAY         12         30         42           27         19241A0125         KATTA SAI KUMAR         27         64         91           28         19241A0128         KOTLAVITEK         12         30         42           30         19241A0128         KONDAPURAM SHIA         28         66         94           31         19241A0130         KRUTHIKA VIJAY PALANGE         21         47         68           32         19241A0133         MADA AKHIL REDDY         17         41         58           33         19241A0133         MADALA CHINNI         12         30 </td <td>18</td> <td>19241A0116</td> <td>GURIJALA SAI KUMAR</td> <td>12</td> <td>30</td> <td>42</td>	18	19241A0116	GURIJALA SAI KUMAR	12	30	42
20         19.241 A0119         IRCUYAN 11 HEMAN 11H KUMAK         26         60         86           21         19.241 A0120         JANGTI VYSINAVI         28         64         92           22         19.241 A0122         JETTI SREEVANI         26         61         87           24         19.241 A0123         K SOWMYA         28         63         91           25         19.241 A0123         K SOWMYA         28         63         91           26         19.241 A0123         K SOWMYA         28         66         94           26         19.241 A0125         KAMAREDDY AKSHAY         12         30         42           27         19.241 A0126         KATTA SAI KUMAR         27         64         91           28         19.241 A0120         KOTTE VVEK         12         30         42           31         19.241 A0131         MADA AKHIL REDDY         17         41         58           32         19.241 A0133         MADARAM SHRAVAN KUMAR REDDY         17         41         58           33         19.241 A0133         MADARAM SHRAVAN KUMAR         13         30         42           37         19.241 A0135         MANDAA ACHINNI	19	19241A0117	IGUKUJALA SRIDHAR	12	30	42
21         19241A010         JARUPLA CHERAN         25         63         88           23         19241A0122         JETTI SREEVANI         26         61         87           24         19241A0123         K SOWMYA         28         63         91           25         19241A0124         KADALI KRISHNASRI SAI         23         60         83           26         19241A0125         KAMAREDDY AKSHAY         12         30         42           27         19241A0126         KATTA SAI KUMAR         27         64         91           28         19241A0127         KOLLURITEJASWI         24         58         82           29         19241A0128         KONDAPURAM SRIJA         28         66         94           30         19241A0130         KRUTHIKA VIJAY PALANGE         12         30         42           31         19241A0130         MADAAM SHRAVAN KUMAR REDDY         17         41         58           33         19241A0133         MADDAAM SHRAVAN KUMAR REDDY         27         64         91           34         19241A0133         MADDAAA MALPATEL         25         57         82           36         19241A0135         MANDAA CHINN         <	20	19241A0118	IKUVANII HEMANTH KUMAK	26	60	86
22         19241A0120         JAKUPLA CHEKAN         25         63         88           23         19241A0123         JETTI SREEVANI         26         61         87           24         19241A0123         K ADALI KRISHNASRI SAI         23         60         83           25         19241A0125         KAMAREDDY AKSHAY         12         30         42           27         19241A0125         KAMAREDDY AKSHAY         12         30         42           28         19241A0127         KOLLURETJASWI         24         58         82           29         19241A0127         KOLURETJASWI         24         58         82           29         19241A0127         KOTTE VIVEK         12         30         42           31         19241A0131         MADAAKHL RUDAY         17         41         58           33         19241A0133         MADDAAKHL RUDAY SAGAR         15         37         52           34         19241A0133         MADAACHINNI         12         30         42           37         19241A0135         MADAA CHINNI         12         30         43           38         19241A0135         MADAAKANIPATEL         25         57	21	19241A0119		28	64	92
23         19241A0122         JEITISKEEVANI         26         61         87           24         19241A0123         K SOWWYA         28         63         91           25         19241A0125         KAMAREDDY AKSHAY         12         30         42           27         19241A0126         KATTA SAI KUMAR         27         64         91           28         19241A0126         KATTA SAI KUMAR         27         64         91           28         19241A0126         KATTA SAI KUMAR         28         66         94           30         19241A0128         KONDAPURAM SRIA         28         66         94           30         19241A0131         MADA KHIL REDDY         17         41         58           33         19241A0132         MADARAM SHRAVAN KUMAR REDDY         27         64         91           34         19241A0134         CHANDAN MALPATEL         25         57         82           36         19241A0134         CHANDAN MALPATEL         25         57         82           36         19241A0137         MOHD OBAID KASHF         16         38         54           39         19241A0137         MOHD OBAID KASHF         16	22	19241A0120	JARUPLA CHERAN	25	63	88
24         19241A0123         KADALI KRISHNASRI SAI         23         60         83           26         19241A0125         KAMAREDDY AKSHAY         12         30         42           27         19241A0125         KAMAREDDY AKSHAY         12         30         42           27         19241A0126         KATTA SAI KUMAR         27         64         91           28         19241A0127         KOLLURI TEJASWI         24         58         82           29         19241A0128         KONDAPURAM SRIJA         28         66         94           30         19241A0130         KRUTHIKA VIJAY PALANGE         21         47         68           31         19241A0130         KRUTHIKA VIJAY PALANGE         21         47         66           33         19241A0131         MADARAM SHRAVAN KUMAR REDDY         17         41         58           33         19241A0133         MADDIGATLA AJAY SAGAR         15         37         52           36         19241A0136         MIRBGILLA VIJAYAKUMAR         12         30         42           37         19241A0136         MIRBGILLA VIJAYAKUMAR         13         30         43           39         19241A0137         MO	23	19241A0122		20	62	87
22         19241A0124         KADALI KRISHNASKI SAI         23         00         63           26         19241A0125         KAMAREDDY AKSHAY         12         30         42           27         19241A0126         KATTA SAI KUMAR         27         64         91           28         19241A0128         KOLLURI.TEJASWI         24         58         82           29         19241A0128         KONLURI.TEJASWI         24         56         94           30         19241A0131         MADA KHIL REDDY         17         41         58           31         19241A0131         MADA KHIL REDDY         17         41         58           33         19241A0131         MADARAM SHRAVAN KUMAR REDDY         27         64         91           34         19241A0134         CHANDAN MALPATEL         25         57         82           36         19241A0134         CHANDAN MALPATEL         25         57         82           36         19241A0135         MANDALA CHINNI         12         30         42           37         19241A0137         MOHD OBADK KASHIF         16         38         54           39         19241A0137         MOHD OBADK KASHIF <t< td=""><td>24</td><td>19241A0125</td><td></td><td>28</td><td>60</td><td>91</td></t<>	24	19241A0125		28	60	91
20         19241A0125         KATTA SAI KUMAR         12         30         42           27         19241A0126         KATTA SAI KUMAR         27         64         91           28         19241A0127         KOLLURI,TEJASWI         24         58         82           29         19241A0128         KONDAPURAM SRIJA         28         66         94           30         19241A0129         KOTTE VIVEK         12         30         42           31         19241A0130         KRUTHIKA VIJAY PALANGE         21         47         68           32         19241A0131         MADA AKHIL REDDY         17         41         58           33         19241A0132         MADARAM SHRAVAN KUMAR REDDY         17         41         58           34         19241A0133         MADDIGATLA AJAY SAGAR         15         37         52           35         19241A0135         MANDALA CHINNI         12         30         42           37         19241A0135         MANDALA CHINNI         12         30         42           39         19241A0137         MOHD OBAID KASHIF         16         38         54           39         19241A0138         NARAPAKA MADHAV KUMAR	25	19241A0124	KADALI KRISHINASKI SAI	12	20	05 12
21         19241A0127         KOLLURTEJASWI         24         58         82           29         19241A0128         KONDAPURAM SRIJA         28         66         94           30         19241A0129         KOTTE VIVEK         12         30         42           31         19241A0130         KRUTHIKA VIJAY PALANGE         21         47         68           32         19241A0131         MADA AKHIL REDDY         17         41         58           33         19241A0132         MADARAM SHRAVAN KUMAR REDDY         27         64         91           34         19241A0133         MADARAM SHRAVAN KUMAR REDDY         27         64         91           35         19241A0133         MANDALA CHINNI         12         30         42           36         19241A0133         MANDALA CHINNI         12         30         42           37         19241A0137         MIRGILLA VIJAYAKUMAR         13         30         43           38         19241A0137         MARAPAKA MADHAV KUMAR         12         30         42           40         19241A0137         NIMALA ARSHITHA         22         53         75           41         19241A0137         PAILAPU NAVEEN	20	19241A0125	KAMAREDDI AKSHAT	27	50 64	42
29         19241A0128         KONDAPURAM SRUA         24         36         94           30         19241A0128         KONDAPURAM SRUA         28         66         94           30         19241A0128         KOTE VIVEK         12         30         42           31         19241A0130         KRUTHIKA VIJAY PALANGE         21         47         68           32         19241A0131         MADA AKHIL REDDY         17         41         58           33         19241A0132         MADARAM SHRAVAN KUMAR REDDY         27         64         91           34         19241A0133         MADAIA ACHINNI         12         30         42           35         19241A0135         MANDALA CHINNI         12         30         42           36         19241A0136         MIREGILLA VIJAYAKUMAR         13         30         43           38         19241A0137         MOHD OBAD KASHIF         16         38         54           39         19241A0138         NARAPAKA MADHAV KUMAR         12         30         42           40         19241A0141         P SIDDARTHA         6         AB         6           42         19241A0144         PALLAPU NAVEEN         22<	27	19241A0120	KOLLURI TELASWI	27	58	82
20         19241A0129         KOTE VIVEK         12         30         42           31         19241A0130         KRUTHIKA VIJAY PALANGE         21         47         68           32         19241A0131         MADA AKHIL REDDY         17         41         58           33         19241A0132         MADARAM SHRAVAN KUMAR REDDY         27         64         91           34         19241A0133         MADDIGATLA AJAY SAGAR         15         37         52           35         19241A0134         CHANDANA MALPATEL         25         57         82           36         19241A0136         MIREGILA VIJAYAKUMAR         13         30         42           37         19241A0136         MIREGILA VIJAYAKUMAR         13         30         43           38         19241A0137         MOHD OBAID KASHIF         16         38         54           39         19241A0138         NARAPAKA MADHAV KUMAR         12         30         42           40         19241A0139         NIMMALA ARSHITHA         22         53         75           41         19241A0149         PALDA PAINAY KUMAR         23         55         77           44         19241A0143         PALLAPU NA	20	19241A0127	KONDAPURAM SRILA	24	66	94
31         19241A0130         KRUTHIKA VIAY PALANGE         21         47         68           32         19241A0131         MADA AKHIL REDDY         17         41         58           33         19241A0132         MADARAM SHRAVAN KUMAR REDDY         17         41         58           33         19241A0132         MADARAM SHRAVAN KUMAR REDDY         27         64         91           34         19241A0133         MADDIGATLA AJAY SAGAR         15         37         52           35         19241A0134         CHANDANA MALPATEL         25         57         82           36         19241A0135         MANDALA CHINNI         12         30         42           37         19241A0137         MOHD OBAID KASHIF         16         38         54           39         19241A0138         NARAPAKA MADHAV KUMAR         12         30         42           40         19241A0143         PALLAPU AARSHITHA         6         A8         6           41         19241A0143         PALLAPU NAVEEN         22         55         77           44         19241A0143         PALLAPU NAVEEN         22         55         77           44         19241A0145         PANTANGI PR	30	19241A0129	KOTTE VIVEK	12	30	42
32         19241A0131         MADA AKHIL REDDY         17         41         58           33         19241A0132         MADARAM SHRAVAN KUMAR REDDY         27         64         91           34         19241A0133         MADDIGATLA JAY SAGAR         15         37         52           35         19241A0134         CHANDANA MALPATEL         25         57         82           36         19241A0135         MANDALA CHINNI         12         30         42           37         19241A0136         MIREGILLA VIJAYAKUMAR         13         30         43           38         19241A0138         NARAPAKA MADHAV KUMAR         12         30         42           40         19241A0138         NARAPAKA MADHAV KUMAR         12         30         42           41         19241A0139         NIMMALA ARSHITHA         22         53         75           41         19241A0141         P SIDDARTHA         6         AB         6           42         19241A0143         PALLAPU NAVEEN         22         55         77           43         19241A0143         PALLAPU NAVEEN         22         55         77           44         19241A0143         PALLAPU NAVEEN	31	19241A0130	KRUTHIKA VIJAY PALANGE	21	47	68
33         19241A0132         MADARAM SHRAVAN KUMAR REDDY         27         64         91           34         19241A0133         MADDIGATLA AJAY SAGAR         15         37         52           35         19241A0134         CHANDANA MALPATEL         25         57         82           36         19241A0135         MANDALA CHINNI         12         30         42           37         19241A0136         MIREGILLA VIJAYAKUMAR         13         30         43           38         19241A0137         MOHD OBAID KASHIF         16         38         54           39         19241A0138         NARAPAKA MADHAV KUMAR         12         30         42           40         19241A0139         NIMMALA ARSHITHA         22         53         75           41         19241A0141         P SIDDARTHA         6         A8         6           42         19241A0142         PAGIDPALLY AJAY KUMAR         23         55         78           43         19241A0144         PALLE SANATH KUMAR         19         50         69           45         19241A0145         PANTANGI PRANAY         26         62         88           46         19241A0145         PANTANGI PRANAY <td>32</td> <td>19241A0131</td> <td>MADA AKHIL REDDY</td> <td>17</td> <td>41</td> <td>58</td>	32	19241A0131	MADA AKHIL REDDY	17	41	58
34         19241A0133         MADDIGATLA AJAY SAGAR         15         37         52           35         19241A0134         CHANDANA MALPATEL         25         57         82           36         19241A0135         MANDALA CHINNI         12         30         42           37         19241A0136         MIREGILLA VIJAYAKUMAR         13         30         43           38         19241A0137         MOHD OBAID KASHIF         16         38         54           39         19241A0138         NARAPAKA MADHAV KUMAR         12         30         42           40         19241A0139         NIMMALA ARSHITHA         22         53         75           41         19241A0142         PAGDIPALLY AJAY KUMAR         23         55         78           43         19241A0142         PAGDIPALY AJAY KUMAR         23         55         77           44         19241A0143         PALLAPU NAVEEN         22         55         77           44         19241A0145         PANTANGI PRANAY         26         62         88           46         19241A0146         PATIL SWAPNIL         12         30         42           47         19241A0147         POLISETTY SAAHAS	33	19241A0132	MADARAM SHRAVAN KUMAR REDDY	27	64	91
35         19241A0134         CHANDANA MALPATEL         25         57         82           36         19241A0135         MANDALA CHINNI         12         30         42           37         19241A0136         MIREGILLA VIJAYAKUMAR         13         30         43           38         19241A0137         MOHD OBAID KASHIF         16         38         54           39         19241A0138         NARAPAKA MADHAV KUMAR         12         30         42           40         19241A0139         NIMMALA ARSHITHA         22         53         75           41         19241A0141         P SIDDARTHA         6         AB         6           42         19241A0141         P SIDDARTHA         23         55         78           43         19241A0143         PALLAPU NAVEEN         22         55         77           44         19241A0144         PALLAPU NAVEEN         22         55         77           44         19241A0145         PANTANGI PRANAY         26         62         88           46         19241A0145         PANTANGI PRANAY         26         60         86           48         19241A0147         POLISETTY SAAHAS         26         <	34	19241A0133	MADDIGATLA AJAY SAGAR	15	37	52
36         19241A0135         MANDALA CHINNI         12         30         42           37         19241A0136         MIREGILLA VIJAYAKUMAR         13         30         43           38         19241A0137         MOHD OBAID KASHIF         16         38         54           39         19241A0138         NARAPAKA MADHAV KUMAR         12         30         42           40         19241A0139         NIMMALA ARSHITHA         22         53         75           41         19241A0141         P SIDDARTHA         6         AB         6           42         19241A0143         PALLAPU NAVEEN         22         55         77           43         19241A0143         PALLAPU NAVEEN         22         55         77           44         19241A0144         PALLE SANATH KUMAR         19         50         69           45         19241A0145         PANTANGI PRANAY         26         62         88           46         19241A0146         PATIL SWAPNIL         12         30         42           47         19241A0148         S.AITEJA         15         39         54           49         19241A0148         S.AITEJA         15         39	35	19241A0134	CHANDANA MALPATEL	25	57	82
37         19241A0136         MIREGILLA VIJAYAKUMAR         13         30         43           38         19241A0137         MOHD OBAID KASHIF         16         38         54           39         19241A0138         NARAPAKA MADHA V KUMAR         12         30         42           40         19241A0139         NIMALA ARSHITHA         22         53         75           41         19241A0141         P SIDDARTHA         6         AB         6           42         19241A0142         PAGIDIPALLY AJAY KUMAR         23         55         78           43         19241A0143         PALLAPU NAVEEN         22         55         77           44         19241A0144         PALLE SANATH KUMAR         19         50         69           45         19241A0145         PANTANGI PRANAY         26         62         88           46         19241A0146         PATIL SWAPNIL         12         30         42           47         19241A0148         S.ATTEJA         15         39         54           49         19241A0148         S.AT PRASANNA REDDY SOLIPETA         6         35         41           51         19241A0150         SATY A SAI PRASANNA REDDY SOLIPETA	36	19241A0135	MANDALA CHINNI	12	30	42
38         19241A0137         MOHD OBAID KASHIF         16         38         54           39         19241A0138         NARAPAKA MADHAV KUMAR         12         30         42           40         19241A0139         NIMMALA ARSHTHA         22         53         75           41         19241A0141         P SIDDARTHA         6         AB         6           42         19241A0142         P AGIDIPALY AJAY KUMAR         23         55         78           43         19241A0143         PALLAPU NAVEEN         22         55         77           44         19241A0144         PALLE SANATH KUMAR         19         50         69           45         19241A0145         PANTANGI PRANAY         26         62         88           46         19241A0146         PATIL SWAPNIL         12         30         42           47         19241A0147         POLISETTY SAAHAS         26         60         86           48         19241A0148         S.SAITEJA         15         39         54           49         19241A0149         SAI NEERAJ M         18         44         62           50         19241A0150         SATYA SAI PRASANNA REDDY SOLIPETA         6 </td <td>37</td> <td>19241A0136</td> <td>MIREGILLA VIJAYAKUMAR</td> <td>13</td> <td>30</td> <td>43</td>	37	19241A0136	MIREGILLA VIJAYAKUMAR	13	30	43
39         19241A0138         NARAPAKA MADHAV KUMAR         12         30         42           40         19241A0139         NIMMALA ARSHITHA         22         53         75           41         19241A0141         P SIDDARTHA         6         AB         6           42         19241A0142         PAGIDIPALLY AJAY KUMAR         23         55         78           43         19241A0143         PALLAPU NAVEEN         22         55         77           44         19241A0145         PANTANGI PRANAY         26         62         88           45         19241A0145         PANTANGI PRANAY         26         62         88           46         19241A0146         PATIL SWAPNIL         12         30         42           47         19241A0148         S.SAITEJA         15         39         54           49         19241A0148         S.SAITEJA         15         39         54           49         19241A0150         SATYA SAI PRASANNA REDDY SOLIPETA         6         35         41           51         19241A0151         SHAIK FIRDOUS AYESHA         19         47         66           53         19241A0153         SOORA VIKAS         15	38	19241A0137	MOHD OBAID KASHIF	16	38	54
40         19241A0139         NIMMALA ARSHITHA         22         53         75           41         19241A0141         P SIDDARTHA         6         AB         6           42         19241A0142         PAGIDIPALLY AJAY KUMAR         23         55         78           43         19241A0143         PALLAPU NAVEEN         22         55         77           44         19241A0144         PALLE SANATH KUMAR         19         50         69           45         19241A0145         PANTANGI PRANAY         26         62         88           46         19241A0146         PATIL SWAPNIL         12         30         42           47         19241A0148         S.SAITEJA         15         39         54           49         19241A0148         S.SAITEJA         15         39         54           49         19241A0149         SAI PRASANNA REDDY SOLIPETA         6         35         41           51         19241A0150         SATYA SAI PRASANNA REDDY SOLIPETA         6         35         41           51         19241A0151         SHAIK FIRDOUS AYESHA         19         47         66           53         19241A0153         SOORA VIKAS         15<	39	19241A0138	NARAPAKA MADHAV KUMAR	12	30	42
41       19241A0141       P SIDDARTHA       6       AB       6         42       19241A0142       PAGIDIPALLY AJAY KUMAR       23       55       78         43       19241A0143       PALLAPU NAVEEN       22       55       77         44       19241A0144       PALLE SANATH KUMAR       19       50       69         45       19241A0145       PANTANGI PRANAY       26       62       88         46       19241A0146       PATIL SWAPNIL       12       30       42         47       19241A0147       POLISETTY SAAHAS       26       60       86         48       19241A0148       S.SAITEJA       15       39       54         49       19241A0149       SAI NEERAJ M       18       44       62         50       19241A0150       SATYA SAI PRASANNA REDDY SOLIPETA       6       35       41         51       19241A0151       SHAIK BILAL       12       30       42         52       19241A0152       SHAIK FIRDOUS AYESHA       19       47       66         53       19241A0153       SOORA VIKAS       15       42       57         54       19241A0154       TELLAM SRI SAI PAVANA ROSHINI	40	19241A0139	NIMMALA ARSHITHA	22	53	75
42       19241A0142       PAGIDIPALLY AJAY KUMAR       23       55       78         43       19241A0143       PALLAPU NAVEEN       22       55       77         44       19241A0144       PALLE SANATH KUMAR       19       50       69         45       19241A0145       PANTANGI PRANAY       26       62       88         46       19241A0146       PATIL SWAPNIL       12       30       42         47       19241A0147       POLISETTY SAAHAS       26       60       86         48       19241A0148       S.SAITEJA       15       39       54         49       19241A0149       SAI NEERAJ M       18       44       62         50       19241A0150       SATYA SAI PRASANNA REDDY SOLIPETA       6       35       41         51       19241A0151       SHAIK BILAL       12       30       42         52       19241A0152       SHAIK FIRDOUS AYESHA       19       47       66         53       19241A0153       SOORA VIKAS       15       42       57         54       19241A0154       TELLAM SRI SAI PAVANA ROSHINI       23       58       81         55       19241A0155       THALLAPALLY SWARANYA	41	19241A0141	P SIDDARTHA	6	AB	6
43       19241A0143       PALLAPU NAVEEN       22       55       77         44       19241A0144       PALLE SANATH KUMAR       19       50       69         45       19241A0145       PANTANGI PRANAY       26       62       88         46       19241A0146       PATIL SWAPNIL       12       30       42         47       19241A0146       PATIL SWAPNIL       12       30       42         47       19241A0147       POLISETTY SAAHAS       26       60       86         48       19241A0148       S.SAITEJA       15       39       54         49       19241A0148       S.AI NEERAJ M       18       44       62         50       19241A0150       SATYA SAI PRASANNA REDDY SOLIPETA       6       35       41         51       19241A0151       SHAIK BILAL       12       30       42         52       19241A0152       SHAIK FIRDOUS AYESHA       19       47       66         53       19241A0153       SOGRA VIKAS       15       42       57         54       19241A0154       TELLAM SRI SAI PAVANA ROSHINI       23       58       81         55       19241A0155       THALLAPALLY SWARANYA	42	19241A0142	PAGIDIPALLY AJAY KUMAR	23	55	78
44       19241A0144       PALLE SANATH KUMAR       19       50       69         45       19241A0145       PANTANGI PRANAY       26       62       88         46       19241A0146       PATIL SWAPNIL       12       30       42         47       19241A0147       POLISETTY SAAHAS       26       60       86         48       19241A0148       S.SAITEJA       15       39       54         49       19241A0149       SAI NEERAJ M       18       44       62         50       19241A0150       SATYA SAI PRASANNA REDDY SOLIPETA       6       35       41         51       19241A0151       SHAIK BILAL       12       30       42         52       19241A0152       SHAIK FIRDOUS AYESHA       19       47       66         53       19241A0153       SOORA VIKAS       15       42       57         54       19241A0153       SOORA VIKAS       15       42       57         54       19241A0153       SOORA VIKAS       15       42       57         54       19241A0155       THALLAPALLY SWARANYA       27       60       87         55       19241A0156       THUMATI VENKATA VAYUNANDHAN	43	19241A0143	PALLAPU NAVEEN	22	55	77
45         19241A0145         PANTANGI PRANAY         26         62         88           46         19241A0146         PATIL SWAPNIL         12         30         42           47         19241A0147         POLISETTY SAAHAS         26         60         86           48         19241A0148         S.SAITEJA         15         39         54           49         19241A0149         SAI NEERAJ M         18         44         62           50         19241A0150         SATYA SAI PRASANNA REDDY SOLIPETA         6         35         41           51         19241A0151         SHAIK BILAL         12         30         42           52         19241A0152         SHAIK FIRDOUS AYESHA         19         47         66           53         19241A0153         SOORA VIKAS         15         42         57           54         19241A0153         SOORA VIKAS         15         42         57           54         19241A0154         TELLAM SRI SAI PAVANA ROSHINI         23         58         81           55         19241A0155         THALLAPALLY SWARANYA         27         60         87           56         19241A0156         THUMATI VENKATA VAYUNANDHAN	44	19241A0144	PALLE SANATH KUMAR	19	50	69
46         19241A0146         PATIL SWAPNIL         12         30         42           47         19241A0147         POLISETTY SAAHAS         26         60         86           48         19241A0148         S.SAITEJA         15         39         54           49         19241A0149         SAI NEERAJ M         18         44         62           50         19241A0150         SATYA SAI PRASANNA REDDY SOLIPETA         6         35         41           51         19241A0151         SHAIK BILAL         12         30         42           52         19241A0152         SHAIK FIRDOUS AYESHA         19         47         66           53         19241A0153         SOORA VIKAS         15         42         57           54         19241A0153         SOORA VIKAS         15         42         57           54         19241A0154         TELLAM SRI SAI PAVANA ROSHINI         23         58         81           55         19241A0155         THALLAPALLY SWARANYA         27         60         87           56         19241A0156         THUMATI VENKATA VAYUNANDHAN         17         55         72           57         19241A0156         THUMATI VENKATA VAYUNAND	45	19241A0145	PANTANGI PRANAY	26	62	88
47       19241A0147       POLISETTY SAAHAS       26       60       86         48       19241A0148       S.SAITEJA       15       39       54         49       19241A0149       SAI NEERAJ M       18       44       62         50       19241A0150       SATYA SAI PRASANNA REDDY SOLIPETA       6       35       41         51       19241A0151       SHAIK BILAL       12       30       42         52       19241A0152       SHAIK FIRDOUS AYESHA       19       47       66         53       19241A0153       SOORA VIKAS       15       42       57         54       19241A0154       TELLAM SRI SAI PAVANA ROSHINI       23       58       81         55       19241A0155       THALLAPALLY SWARANYA       27       60       87         56       19241A0156       THUMATI VENKATA VAYUNANDHAN       17       55       72         57       19241A0156       THUMATI VENKATA VAYUNANDHAN       17       55       72         57       19241A0156       THUMATI VENKATA VAYUNANDHAN       17       55       72         58       19241A0157       UDUMULA NIKHIL REDDY       14       43       57         58       19241A0	46	19241A0146	PATIL SWAPNIL	12	30	42
48       19241A0148       S.SATIEJA       15       39       54         49       19241A0149       SAI NEERAJ M       18       44       62         50       19241A0150       SATYA SAI PRASANNA REDDY SOLIPETA       6       35       41         51       19241A0151       SHAIK BILAL       12       30       42         52       19241A0152       SHAIK FIRDOUS AYESHA       19       47       66         53       19241A0153       SOORA VIKAS       15       42       57         54       19241A0154       TELLAM SRI SAI PAVANA ROSHINI       23       58       81         55       19241A0155       THALLAPALLY SWARANYA       27       60       87         56       19241A0156       THUMATI VENKATA VAYUNANDHAN       17       55       72         57       19241A0156       THUMATI VENKATA VAYUNANDHAN       17       55       72         57       19241A0156       THUMATI VENKATA VAYUNANDHAN       17       55       72         58       19241A0158       VELISHALA GAYATHRI       28       63       91         59       19241A0159       VENKATA SIDDHARTHA RAJU VEGESNA       12       30       42         60	47	19241A0147	POLISETTY SAAHAS	26	60	86
49         19241A0149         SAI NEEKAJ M         18         44         62           50         19241A0150         SATYA SAI PRASANNA REDDY SOLIPETA         6         35         41           51         19241A0151         SHAIK BILAL         12         30         42           52         19241A0152         SHAIK FIRDOUS AYESHA         19         47         66           53         19241A0153         SOORA VIKAS         15         42         57           54         19241A0154         TELLAM SRI SAI PAVANA ROSHINI         23         58         81           55         19241A0155         THALLAPALLY SWARANYA         27         60         87           56         19241A0156         THUMATI VENKATA VAYUNANDHAN         17         55         72           57         19241A0156         THUMATI VENKATA VAYUNANDHAN         17         55         72           57         19241A0156         THUMATI VENKATA VAYUNANDHAN         17         55         72           58         19241A0157         UDUMULA NIKHIL REDDY         14         43         57           58         19241A0158         VELISHALA GAYATHRI         28         63         91           59         19241A015	48	19241A0148	S.SAITEJA	15	39	54
50         19241A0150         SATYA S	49	19241A0149	SAI NEEKAJ M	18	44	62
31         17241A0131         SHAIK BILAL         12         30         42           52         19241A0152         SHAIK FIRDOUS AYESHA         19         47         66           53         19241A0153         SOORA VIKAS         15         42         57           54         19241A0154         TELLAM SRI SAI PAVANA ROSHINI         23         58         81           55         19241A0155         THALLAPALLY SWARANYA         27         60         87           56         19241A0156         THUMATI VENKATA VAYUNANDHAN         17         55         72           57         19241A0157         UDUMULA NIKHIL REDDY         14         43         57           58         19241A0158         VELISHALA GAYATHRI         28         63         91           59         19241A0159         VENKATA SIDDHARTHA RAJU VEGESNA         12         30         42           60         19241A0160         YASWANTH KURUVA         16         40         56	50	19241A0150	SATTA SALYKASAININA KEDDY SULIPETA	b 12	35	41
52         19241A0152         SHAR PREDOUS ATESHA         19         47         66           53         19241A0153         SOORA VIKAS         15         42         57           54         19241A0154         TELLAM SRI SAI PAVANA ROSHINI         23         58         81           55         19241A0155         THALLAPALLY SWARANYA         27         60         87           56         19241A0156         THUMATI VENKATA VAYUNANDHAN         17         55         72           57         19241A0157         UDUMULA NIKHIL REDDY         14         43         57           58         19241A0158         VELISHALA GAYATHRI         28         63         91           59         19241A0159         VENKATA SIDDHARTHA RAJU VEGESNA         12         30         42           60         19241A0160         YASWANTH KURUVA         16         40         56	51	19241A0151	SHAIK EIDDOUS AVESUA	10	30	42
55         19241A0155         SOURA VIRAS         15         42         57           54         19241A0154         TELLAM SRI SAI PAVANA ROSHINI         23         58         81           55         19241A0155         THALLAPALLY SWARANYA         27         60         87           56         19241A0156         THUMATI VENKATA VAYUNANDHAN         17         55         72           57         19241A0157         UDUMULA NIKHIL REDDY         14         43         57           58         19241A0158         VELISHALA GAYATHRI         28         63         91           59         19241A0159         VENKATA SIDDHARTHA RAJU VEGESNA         12         30         42           60         19241A0160         YASWANTH KURUVA         16         40         56	52	19241A0132		19	47	57
57         19241A0155         THALLAPALLY SWARANYA         27         60         87           56         19241A0156         THUMATI VENKATA VAYUNANDHAN         17         55         72           57         19241A0157         UDUMULA NIKHIL REDDY         14         43         57           58         19241A0158         VELISHALA GAYATHRI         28         63         91           59         19241A0159         VENKATA SIDDHARTHA RAJU VEGESNA         12         30         42           60         19241A0160         YASWANTH KURUVA         16         40         56	50	19241A0155	TELLAM SRI SALPAVANA ROSHINI	22	42 52	27 21
56         19241A0156         THUMATI VENKATA VAYUNANDHAN         17         55         72           57         19241A0157         UDUMULA NIKHIL REDDY         14         43         57           58         19241A0158         VELISHALA GAYATHRI         28         63         91           59         19241A0159         VENKATA SIDDHARTHA RAJU VEGESNA         12         30         42           60         19241A0160         YASWANTH KURUVA         16         40         56	55	19241A0155	THALLAPALLY SWARANYA	23	60	87
50         192111010         110111111         110111111 <t< td=""><td>56</td><td>19241A0156</td><td>THIMATI VENKATA VAVIINANDHAN</td><td>17</td><td>55</td><td>72</td></t<>	56	19241A0156	THIMATI VENKATA VAVIINANDHAN	17	55	72
58         19241A0158         VELISHALA GAYATHRI         28         63         91           59         19241A0159         VENKATA SIDDHARTHA RAJU VEGESNA         12         30         42           60         19241A0160         YASWANTH KURUVA         16         40         56	57	19241A0157	UDUMULA NIKHIL REDDY	14	43	57
59         19241A0159         VENKATA SIDDHARTHA RAJU VEGESNA         12         30         42           60         19241A0160         YASWANTH KURUVA         16         40         56	58	19241A0158	VELISHALA GAYATHRI	28	63	91
60         19241A0160         YASWANTH KURUVA         16         40         56	59	19241A0159	VENKATA SIDDHARTHA RAIU VEGESNA	12	30	42
	60	19241A0160	YASWANTH KURUVA	16	40	56

61	19241A0161	ABDUL RAHEEM	16	29	45
62	1924140162	ANEMONI MURALI MANOHAR	16	25	45
63	1924140162	ASKANY HARISH SAGAR	10	20	44
64	1924140165	BODI & AKSHITH	26	56	45 82
65	19241A0165	BURRA VAMSHI KRISHNA	20	52	76
66	19241A0105		24	52	70 80
67	19241A0100 CHERLAROLA ARIHLA			37	60
68	19241A0107		20	49	09
60	19241A0108	D SPEE MADUUDI	28	02	90
70	19241A0109		21	33	54 70
70	19241A0170	GADDAM SAHITHI	22	48	70
/1	19241A0171	GAJJALA SUKENDHAR REDDY	15	33	48
12	19241A0172	YASHASWI GANGAVARAM	12	31	43
73	19241A0173	GINDHAM ADITYA KUMAR	19	42	61
74	19241A0174	GUDHETI NARENDAR REDDY	19	42	61
75	19241A0175	GUMMADI SAI PRATEEK REDDY	13	30	43
76	19241A0176	HANMAPUR DHEERAJ GOUD	12	30	42
77	19241A0177	JAVVAJI AISHWARYA	21	52	73
78	19241A0178	JULAPALLY NITHIN RAO	14	33	47
79	19241A0179	K NAVEEN	16	28	44
80	19241A0180	K RAJESHWARI	24	61	85
81	19241A0181	KACHAVA SURENDAR	21	49	70
82	19241A0182	KODATHALA INDU	27	61	88
83	19241A0183	KOTARU SRINIVASA VARAPRASAD	16	34	50
84	19241A0184	MALOTH RAHUL	21	42	63
85	19241A0185	MATURI SATHVIK	25	57	82
86	19241A0186	MD ABDUL MAAJID	12	31	43
87	19241A0187	MEDARI DAYANA	23	47	70
88	19241A0188	NARSINGA SANDEEP	17	32	49
89	19241A0189	PALANATI ROHITH	13	28	41
90	19241A0190	PURALASETTY BHAVANA	20	42	62
91	1924110190	RODDA MALAVIKA REDDY	15	38	53
02	1924110191	SAPPAM NAGA SPILOWKYA MUKTHA	15	42	55
03	19241A0192	SHAIK DADVEZ ANSADI	2	42	38
93	19241A0193		15	27	<u> </u>
94	19241A0194	TALADI CHANDANA SDEE	15	37	52
93	19241A0193	TALAKI CHANDANA SKEE	10	37	55
0.0	1004140106	VIAL FOULT VIAL VIAN	40	27	5.0
96	19241A0196	VALLEPU KALYAN	19	37	56
96 97	19241A0196 19241A0197	VALLEPU KALYAN VRASHAB PATEL	19 28	37 60	56 88
96 97 98	19241A0196 19241A0197 19241A0198	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER	19 28 19	37 60 40	56 88 59
96 97 98 99	19241A0196 19241A0197 19241A0198 19241A0199	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN	19 28 19 19	37 60 40 37	56 88 59 56
96 97 98 99 100	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi	19 28 19 19 28	37 60 40 37 65	56 88 59 56 93
96 97 98 99 100 101	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya	19 28 19 19 28 28 24	37 60 40 37 65 54	56 88 59 56 93 78
96 97 98 99 100 101 102	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh	19 28 19 19 28 28 24 15	37 60 40 37 65 54 28	56 88 59 56 93 78 43
96 97 98 99 100 101 102 103	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0104	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree	19 28 19 19 28 24 15 25	37 60 40 37 65 54 28 57	56 88 59 56 93 78 43 82
96 97 98 99 100 101 102 103 104	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0104 20245A0105	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja	19           28           19           28           24           15           25           26	37 60 40 37 65 54 28 57 56	56 88 59 56 93 78 43 82 82
96 97 98 99 100 101 102 103 104 105	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0104 20245A0105 20245A0106	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika	19           28           19           28           24           15           25           26           26	37 60 40 37 65 54 28 57 56 64	56 88 59 56 93 78 43 82 82 82 90
96 97 98 99 100 101 102 103 104 105 106	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0103 20245A0104 20245A0105 20245A0106 20245A0107	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil	19           28           19           28           24           15           25           26           26           17	37 60 40 37 65 54 28 57 56 64 33	56 88 59 56 93 78 43 82 82 82 90 50
96 97 98 99 100 101 102 103 104 105 106 107	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0104 20245A0105 20245A0106 20245A0107 20245A0108	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj	19         28         19         28         24         15         26         26         17         22	37 60 40 37 65 54 28 57 56 64 33 57	56 88 59 56 93 78 43 43 82 82 82 90 50 79
96 97 98 99 100 101 102 103 104 105 106 107 108	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0104 20245A0105 20245A0106 20245A0107 20245A0108 20245A0109	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar	19         28         19         28         24         15         26         26         17         22         17	37 60 40 37 65 54 28 57 56 64 33 57 57 30	56 88 59 56 93 78 43 43 82 82 82 90 50 79 47
96 97 98 99 100 101 102 103 104 105 106 107 108 109	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0104 20245A0105 20245A0106 20245A0106 20245A0108 20245A0109 20245A0110	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal	19         28         19         28         24         15         26         26         17         22         17         24	37 60 40 37 65 54 28 57 56 64 33 57 57 30 52	56           88           59           56           93           78           43           82           90           50           79           47           76
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0104 20245A0105 20245A0106 20245A0106 20245A0109 20245A0109 20245A0110	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh	19         28         19         28         24         15         25         26         17         22         17         24         19	37 60 40 37 65 54 28 57 56 64 33 57 30 52 42	56           88           59           56           93           78           43           82           90           50           79           47           76           61
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111	19241A0196 19241A0197 19241A0197 19241A0199 20245A0101 20245A0102 20245A0103 20245A0104 20245A0105 20245A0106 20245A0106 20245A0108 20245A0109 20245A0110 20245A0111 20245A0112	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh Lakavath Anil	19           28           19           28           24           15           26           26           27           17           22           17           24           19           16	37 60 40 37 65 54 28 57 56 64 33 57 56 64 33 57 30 52 42 38	56         88         59         56         93         78         43         82         90         50         79         47         76         61         54
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 111	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0104 20245A0105 20245A0106 20245A0107 20245A0109 20245A0110 20245A0111 20245A0112 20245A0113	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh Lakavath Anil Madavaram Rohith	19         28         19         28         24         15         26         26         17         22         17         24         19         16         19	37 60 40 37 65 54 28 57 56 64 33 57 56 64 33 57 30 52 42 38 42	56         88         59         56         93         78         43         82         90         50         79         47         76         61         54         61
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 1112 113	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0103 20245A0105 20245A0106 20245A0106 20245A0108 20245A0108 20245A0110 20245A0111 20245A0113 20245A0113	VALLEPU KALYAN VRASHAB PATEL YELAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh Lakavath Anil Madavaram Rohith Mandala Akshitha	19         28         19         28         24         15         26         26         27         27         17         24         19         16         19         30	37 60 40 37 65 54 28 57 56 64 33 57 56 64 33 57 30 52 42 38 42 60	56           88           59           56           93           78           43           82           90           50           79           47           76           61           54           61           90
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 111 112 113	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0103 20245A0105 20245A0106 20245A0107 20245A0108 20245A0109 20245A0110 20245A0110 20245A0111 20245A0113 20245A0114 20245A0115	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh Lakavath Anil Madavaram Rohith Mandala Akshitha M Manjunath	19         28         19         28         24         15         26         26         26         17         22         17         24         19         16         19         30         16	37 60 40 37 65 54 28 57 56 64 33 57 30 52 42 38 42 60 60 28	56         88         59         56         93         78         43         82         90         50         79         47         76         61         54         61         90         44
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0103 20245A0105 20245A0106 20245A0107 20245A0108 20245A0109 20245A0110 20245A0111 20245A0113 20245A0114 20245A0115 20245A0116	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh Lakavath Anil Madavaram Rohith Mandala Akshitha M Manjunath Porandla Nababhushanam	19         28         19         28         24         15         26         26         26         17         22         17         24         19         16         19         30         16         21	37 60 40 37 65 54 28 57 56 64 33 57 30 52 42 38 42 38 42 60 28 46	56         88         59         56         93         78         43         82         90         50         79         47         76         61         54         61         90         44         67
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116	19241A0196 19241A0197 19241A0198 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0103 20245A0105 20245A0106 20245A0107 20245A0109 20245A0110 20245A0110 20245A0113 20245A0114 20245A0115 20245A0116 20245A0116	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh Lakavath Anil Madavaram Rohith Mandala Akshitha M Manjunath Porandla Nababhushanam Pulishetty Bhavani	19         28         19         28         24         15         25         26         17         22         17         24         19         16         19         30         21         22	37 60 40 37 65 54 28 57 56 64 33 57 30 52 42 38 42 60 28 46 46 46	56         88         59         56         93         78         43         82         90         50         79         47         76         61         54         61         90         44         67         68
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117	19241A0196 19241A0197 19241A0197 19241A0199 20245A0101 20245A0102 20245A0103 20245A0105 20245A0106 20245A0106 20245A0107 20245A0109 20245A0110 20245A0110 20245A0111 20245A0113 20245A0115 20245A0116 20245A0117 20245A0117 20245A0118	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh Lakavath Anil Madavaram Rohith Mandala Akshitha M Manjunath Porandla Nababhushanam Pulishetty Bhavani Racha Kranthi Ranadeer	19         28         19         28         24         15         25         26         27         17         24         19         16         19         30         16         21         22         21	37 60 40 37 65 54 28 57 56 64 33 57 56 64 33 57 30 52 42 38 42 38 42 60 28 46 46 51	56         88         59         56         93         78         43         82         90         50         79         47         76         61         54         61         90         44         67         68         72
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118	19241A0196 19241A0197 19241A0197 19241A0199 20245A0101 20245A0102 20245A0103 20245A0105 20245A0106 20245A0106 20245A0107 20245A0108 20245A0109 20245A0110 20245A0110 20245A0111 20245A0113 20245A0114 20245A0116 20245A0117 20245A0118 20245A0118 20245A0119	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh Lakavath Anil Madavaram Rohith Mandala Akshitha M Manjunath Porandla Nababhushanam Pulishetty Bhavani Racha Kranthi Ranadeer S Manoj Kumar	19           28           19           28           24           15           25           26           17           22           17           24           19           16           19           30           16           21           22           21           26	37 60 40 37 65 54 28 57 56 64 33 57 56 64 33 57 52 42 38 42 38 42 60 28 46 46 51 57	56         88         59         56         93         78         43         82         90         50         79         47         76         61         54         61         90         44         67         68         72         83
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0103 20245A0105 20245A0106 20245A0107 20245A0107 20245A0109 20245A0110 20245A0110 20245A0111 20245A0113 20245A0114 20245A0115 20245A0117 20245A0117 20245A0118 20245A0119 20245A0119 20245A0120	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh Lakavath Anil Madavaram Rohith Mandala Akshitha M Manjunath Porandla Nababhushanam Pulishetty Bhavani Racha Kranthi Ranadeer S Manoj Kumar	19         28         19         28         24         15         25         26         17         22         17         24         19         16         19         30         16         21         22         21         26         23	37 60 40 37 65 54 28 57 56 64 33 57 56 64 33 57 30 52 42 38 42 38 42 60 28 42 42 38 42 57 61	56         88         59         56         93         78         43         82         90         50         79         47         76         61         54         61         90         44         67         68         72         83         84
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 111 112 113 114 115 116 117 118 119 120	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0103 20245A0106 20245A0106 20245A0107 20245A0107 20245A0109 20245A0110 20245A0110 20245A0111 20245A0112 20245A0115 20245A0115 20245A0116 20245A0117 20245A0118 20245A0119 20245A0119 20245A0120 20245A0121	VALLEPU KALYAN VRASHAB PATEL YELAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gadamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh Lakavath Anil Madavaram Rohith Mandala Akshitha M Manjunath Porandla Nababhushanam Pulishetty Bhavani Racha Kranthi Ranadeer S Manoj Kumar Samudrala Manideep Sangenaga Goutham	19         28         19         28         24         15         26         26         17         24         19         26         27         17         24         19         16         19         30         16         21         22         21         26         23         21	37 60 40 37 65 54 28 57 56 64 33 57 30 52 42 38 42 38 42 60 28 42 38 42 60 28 42 38 57 52 52 52 52 52 52 52 52 52 52 53 52 52 52 53 52 52 53 52 52 53 52 53 52 53 52 53 53 53 54 55 55 55 56 57 56 57 56 57 56 57 56 57 56 57 57 56 57 57 56 57 57 56 57 57 56 57 57 56 57 57 56 57 57 56 57 57 56 57 57 56 57 57 56 57 57 56 57 57 56 57 57 56 57 57 57 57 56 57 57 57 57 57 57 57 57 57 57 57 57 57	56         88         59         56         93         78         43         82         90         50         79         47         76         61         54         61         90         43         82         82         90         54         61         90         44         67         68         72         83         84         80
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 1112 113 114 115 116 117 118 119 120 121	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0103 20245A0105 20245A0106 20245A0106 20245A0107 20245A0108 20245A0109 20245A0110 20245A0110 20245A0111 20245A0113 20245A0115 20245A0115 20245A0116 20245A0117 20245A0117 20245A0118 20245A0119 20245A0120 20245A0121 20245A0121 20245A0121 20245A0122	VALLEPU KALYAN VRASHAB PATEL YELAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh Lakavath Anil Madavaram Rohith Mandala Akshitha M Manjunath Porandla Nababhushanam Pulishetty Bhavani Racha Kranthi Ranadeer S Manoj Kumar Samudrala Manideep Sangepaga Goutham Sodadasi Rahul	19         28         19         28         24         15         26         26         17         24         19         26         27         26         17         24         19         16         19         30         16         21         22         21         26         23         21         28	37 60 40 37 65 54 28 57 56 64 33 57 30 52 42 38 42 38 42 60 28 42 38 42 60 28 42 38 42 60 52 51 57 61 59 65	56         88         59         56         93         78         43         82         90         50         79         47         61         54         61         90         44         67         68         72         83         84         80         93
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121	19241A0196 19241A0197 19241A0198 19241A0199 20245A0101 20245A0102 20245A0103 20245A0103 20245A0105 20245A0106 20245A0106 20245A0107 20245A0109 20245A0110 20245A0110 20245A0110 20245A0111 20245A0112 20245A0115 20245A0115 20245A0116 20245A0117 20245A0118 20245A0119 20245A0121 20245A0121 20245A0121 20245A0123	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh Lakavath Anil Madavaram Rohith Mandala Akshitha M Manjunath Porandla Nababhushanam Pulishetty Bhavani Racha Kranthi Ranadeer S Manoj Kumar Samudrala Manideep Sangepaga Goutham Sodadasi Rahul	19         28         19         28         24         15         26         26         27         17         24         19         16         19         30         16         21         22         21         26         23         21         28         18	37 60 40 37 65 54 28 57 56 64 33 57 30 52 42 38 42 60 28 42 60 28 42 51 57 61 57 61 59 65 40	56         88         59         56         93         78         43         82         90         50         79         47         76         61         54         61         90         44         67         68         72         83         84         80         93         58
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123	19241A0196 19241A0197 19241A0197 19241A0199 20245A0101 20245A0102 20245A0103 20245A0104 20245A0105 20245A0106 20245A0106 20245A0107 20245A0109 20245A0109 20245A0110 20245A0110 20245A0113 20245A0114 20245A0115 20245A0116 20245A0116 20245A0117 20245A0118 20245A0119 20245A0120 20245A0121 20245A0123 20245A0123 20245A0124	VALLEPU KALYAN VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh Lakavath Anil Madavaram Rohith Mandala Akshitha M Manjunath Porandla Nababhushanam Pulishetty Bhavani Racha Kranthi Ranadeer S Manoj Kumar Samudrala Manideep Sangepaga Goutham Sodadasi Rahul Vanga Harshith	19         28         19         28         24         15         25         26         17         24         19         16         21         22         21         26         23         21         26         23         21         26         23         21         26         23         21         26         23         21         26	37 60 40 37 65 54 28 57 56 64 33 57 30 52 42 38 42 60 28 42 60 28 42 57 30 52 42 57 57 61 57 61 57 61 59 65 40 61	56         88         59         56         93         78         43         82         90         50         79         47         76         61         90         447         76         61         90         44         67         68         72         83         84         80         93         58         87
96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124	19241A0196 19241A0197 19241A0197 19241A0199 20245A0101 20245A0102 20245A0103 20245A0104 20245A0105 20245A0106 20245A0106 20245A0107 20245A0109 20245A0109 20245A0110 20245A0110 20245A0111 20245A0113 20245A0114 20245A0116 20245A0117 20245A0116 20245A0117 20245A0118 20245A0119 20245A0120 20245A0121 20245A0123 20245A0124 20245A	VALLEPU KALYAN VRASHAB PATEL VRASHAB PATEL YELLAVULA NARENDER BADDELA SAI THARUN Aamanchi Bowmi Aviraboina Sai Chaithanya Bairy B S Anirudh Daddu Tejasree Dopathi Raviteja Eruventi Niharika Gaddamidi Aanil Gandla Rishik Raj Gone Naveen Kumar Kota Vishal Kummari Mahesh Lakavath Anil Madavaram Rohith Mandala Akshitha M Manjunath Porandla Nababhushanam Pulishetty Bhavani Racha Kranthi Ranadeer S Manoj Kumar Samudrala Manideep Sangepaga Goutham Sodadasi Rahul Vanga Harshith Choleti Vineetha Gangula Grishma	19         28         19         28         24         15         25         26         27         17         22         17         24         19         16         21         26         23         21         28         18         26         12	37 60 40 37 65 54 28 57 56 64 33 57 30 52 42 38 42 60 28 42 38 42 60 28 46 46 51 57 61 57 61 59 65 40 61 31	56         88         59         56         93         78         43         82         90         50         79         47         76         61         90         447         76         61         90         447         76         61         90         44         67         68         72         83         84         80         93         58         87         43
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Gokaraju Rangaraju Institute of Engineering & Technology (Autonomous College Affiliated to JNTUH) (8 Pages) Bachupally, Kukatpally, Hyderabad - 500090

PRACTICAL EXAMINATION ANSWER BOOK INTERNAL

No. 29758	H.T. No. 20 5	2 4 5 4 0 1 1 4
Name of the Examination	B TECH I SEM E	EE LAB INTERNAL
Course <u>B</u> TECH	Branch CIVIL	Date 3/12/21 10
		Signature of the Invigilator

#### START WRITING FROM HERE

Ja. Turbidity:-

It is the presence of colloidal & Suspended particle present in the water. Turbidity is not the colour It shows the arthetic view of water weather they are drinkable or not. Mostly for drinking water the turbidity should be ranges between # 1 to 5 NTU. The units of turbidity ore Nephelometric turbidity units.

Procedure:-

(1) Take 100 ml of distilled water in a beaker and 1 ml of Hydrazine Sulphate.

(3) Take another 100 ml of distilled water in a beaker and add 10 ml of Hexamethylene tetramine (Hexamine) (3) Now take 5 ml from each of the Sample and dilute it to 100 ml so that it's turbidity is 400 NTO (4) Again take 10 ml from the previous Scimple & make or dilute it to 100 ml so that its turbidity & & 40 NTU.

(5) Take the AONTU Scimple Pinto the Covetti and put it is the Nephelometer for Cellibration.

(6) Observe the value weather 40 NTU is reading on the scree or not. If it is not done adjust the value by the standard ratue nob to 40 NTU. so that the Calibration process is completed.

(7) Now take the sample in the covette which is to be tested. And Note down the value of two bidity.

F5b.

### DETERMINATION OF CHLORIDES :-

Aim: To determine the presence of chlorides in the water.

Apparaty !

Burette, Standard 0.01 N AgNO3, Nach Solution, pottasium chromatic (k2004), beaker, pippette, conical flash, measuring jar.

Procedure -

(1) prepare the solution of AgNo3 of standard 0.01 N which is taken in the burette. (2) Take 25 ml to 30 ml of Nacl solution to the conical flask by measuring through the measuring gar. (3) Add 2 to 3 drops of pottasium chromate (k2cro4) indicator to the Nacl Solution: (4) Now start doing titration so that the colour from Yellow turns into brick red colour. mi of sample (5) In place of Necch we can also take distilled water for blank titration. 6) Now take the sample that we are testing of 25 ml to 30 ml. in the Conical flask (7) Add pottasium chromate indicator of 2 to 3 drops to the Sample and Start fitration, Here end point is brickred colour. (8) Note down the initial readings and final readings

56

from the formula we get 
$$N_1 V_1 = N_2 V_2$$
  
 $N_2 = \frac{N_1 V_1}{V_2}$ 

Observations;-

chlorine (mgl1) = 
$$(A-B) \times N \times 1000 \times 35.5$$
  
ml of Sample.

from this we can get the amount of chlorides present in Water.

Calculations:-

The second	Sl·NO	Scimple in ml	initia) reading	final reading (A)	volume of Agnlos Consumed.
and the second se	1.	&กิ m]	oml	ll•Gm\$	11-6mf
	: chlorine (mgl) = $(11.6) \times 0.01 \times 1000 \times 35.5$ 25				

= 164.72 mg]f

# Result:-

Therefore the amount of Chlorides present in the tap water and 164.72 mglf. As per WHO the Chlorides stange should be less than

año mall.

TRACTICAL	EXAMINATION ANSWER BOOK INTE	RNAL
No. 29586	H.T. No. 2 0 2 4 5 A 0	129
Name of the Examination	pal exam	
Course <u>B.tech</u>	Branch <u>Civil</u> Date <u>311</u> Signature of t	he Invigilator
ST	ART WRITING FROM HERE	
beteomination of phos	hates	
Alme TO determination Sample	of phosphate in the waves	
ppcroatuse		ten i ce i
u-v spectometco.		
u-v spectometco. Buoxette		
u-v spectometco Buoxette Peptle		
u-v spectometco buoxette peptle ) wateo		
<ul> <li>u-v spectometco</li> <li>buoxette</li> <li>pteptte</li> <li>wateo</li> <li>contcal flask</li> </ul>		Ursk M
<ul> <li>u-v spectometco.</li> <li>Buoxette</li> <li>pleptte</li> <li>wateo</li> <li>contcal flask</li> <li>glass rod.</li> </ul>		Uris Si Just d
u-v spectometco Buozette Pteptte Wateo confcal flask glass Jod chemicals		Urs Maria

combined Reagent v nome of oycholoze acid. > Alumiaium 3 ASDODIC ACEL. » stach thotoshalyamcholode Proceedurge : " 100me of standard phosphates solution in taken in burette. 25 00 some of Photosharyamdychlosed is taken. 3) 15 me of taken in Aluminium sulphate. 4) IO ME OF ASOJODIC Acid is taken. 5) TO the mix thosoughy in the solution. Another beaker taken in iome of Autoobic acid is taken in the beaker and mix in the solution titoate in the solution. Beaked taken into the some of the photosalyamcholoed and 15 Aluminium taken in mix thorougy. 5) mix the solution in subsette in taken some of standard phosphates colution taken in conical black titrate the solution. COLOUR WILL be change in real gellow colour. In the spectrometer in the cample. 9) The colour will be changed in real yellow to colour less on the phosphetes.

A	m: To determine the optimum coapculant does on the sample.
AF	Paratus 2-
y	sand water 7) Beakers
2)	coagulant dose 3) rest mechaline
3)	Burette
4)	pertte
5)	confical Hask.
e) RC	agents
	mencroeted solution () Alum
2)	100me of the source solution.
5)	and water
4)	-HIDC
5)	HC1 solution
2	ocedure?
V	TO protect from the cholodies on the protectical mount its counter of
H	re propage from the solution in iome of the oblication in the
6	ample to taken in the 6 beakers
2)	To Take the 1000 me of sand water is turn to the
5)	TO measure the woome solution taken in the sin bunness.
Ð	To protected size beakers in add the loop of solution.
5)	The some of Alum is add in the beakers.
6)	The add the PN 0.4, 0.5, 0.6, 0.7, 0.8 & 0.9 PN add the H2SO2 solution
1	Pn the beakers.

D coogulant does in 2 process in taken in the sample. 5) Fishet a process in rapid mix process and slow mix process. 9 Rapid mb frocess in 1007pm in a minutes. NO SIOW MER POOCESS 95 400PM 90 20 MENUTES. ") Foist we take the oapid mix process in the sample stort the machine and taken in stadings stronups was mix in the alum does floc will be represent will we set the room Pn 2 minutes. in floc will be represent. 13) GLOW MPX POOCESS PA 400 PM in 20 minutes cample is taken PA the Alum does. to get the Protoument will be 400pm in 20 minutes. is affer the few minutes warting metchine will be stop and few minutes in wait in the machine floc will be acrossented. 14) Note doeon the floc form in moted down the meading. Takular Column Final reading inflat reading in 6.NO the broaked ingly) in the beake amply

Gokaraju Ranga Greek (Auto toomula 2 (A-B) × 8000 mg/L Reaut : To determine the coagulant does no be done.



3 bill Determination of Nitrugen

<u>AIMA</u>: To determine the Nitrogen T present in the given sample of water.

Apparatus: USI visible spectrophotometer with Icm cells (quarte) acts as observant abservance measurements.

Re agents: -> analytical reagent grade -> distilled water -> Nitrate solution (1000gm/1) -> Discolved potacium nitrate (0.7220) -> 100me). -> saleford sulfanitie acid (asg in come)

Procedune

- -> Pippet out lome of nitrate solution into a beaker.
- -> add sme of Fice and 2 me of Nacl -> wait for 30 min. by stirring occationally
- > this will form nitrate.
- > The solution was filtered through to loo me.
- -> add 1 ml of methyle indicator
- -> 2me of sodium hydroxide is added to form ato dye. -> Dilited with 10 me water.
- > after ditchion, the absorbance of the red colour dye is measured 493 nm.

Observation:



### **GUIDELINES TO STUDY THE COURSE SUBJECT**

Academic Year	:	2021-2022		
Semester	:	Ι		
Name of the Program	:	B. Tech	Year: III Year	Section: A
Course/Subject :		Environmental	Engineering Lab	Course Code : GR18A3011
Name of the Faculty :		Dr. K. Srikanth	n / Mr. A. Prakash / M	r. C Vanadeep
<b>Designation:</b> Associat	te/Assi	stant Professor		

#### Guide line to study the course/subject: Environmental Engineering Lab

This course helps the students to learn and understand, with the concept of water and waste water parameters to characterize ground water/lake water/industrial effluent for social responsibility.

#### So the students should have the following prerequisites:

- Basic knowledge of science, engineering and fluid mechanics
- Ability to perform exercise as well as analyze and interpret data.

#### Where will this subject help?

- 1. To develop skills in low cost water treatment methods.
- 2. To describe the knowledge of physical, chemical and biological parameters of water and their importance.
- 3. To develop the social responsibility to eradicate water borne diseases.
- 4. Recognize the methods to control environmental pollution.



# **BOOKS AND MATERIALS**

#### **TEXT BOOKS**

- 1. Standard Methods for Analysis of water and Wastewater APHA.
- 2. Chemistry for Environmental Engineering by Sawyer and Mc. Carty.

Suggested / Reference Books		
1.	<b>Environmental</b> Science : <b>Laboratory manual</b> , Maurice A Strobbe, The C V Mosby <b>Engineering</b> , Chair N. Sawyer and Perry L McCarty, McGraw Hill Book Vogel's <b>Textbook</b> of Quantitative Inorganic Analysis (Revised Fourth Edition),	
2.	Environmental and Hydraulic Engineering Laboratory Manual [Gang Chen, as a textbook for an Environmental and hydraulics engineering laboratory course.	

Web S	Web Sites							
1.	http://www.nptel.ac.in/syllabus/105104032/							
2.	Lab_CVL212v1.pdf							



# COURSE DESIGN AND DELIVERY SYSTEM (CDD)

- The Course syllabus is written into number of learning objectives and outcomes.
- These learning objectives and outcomes will be achieved through lectures, assessments, assignments, experiments in the laboratory, projects, seminars, presentations, etc.
- Every student will be given an assessment plan, criteria for assessment, scheme of evaluation and grading method.
- The Learning Process will be carried out through assessments of Knowledge, Skills and Attitude by various methods and the students will be given guidance to refer to the text books, reference books, journals, etc.

The faculty be able to –

- Understand the principles of Learning
- Understand the psychology of students
- Develop instructional objectives for a given topic
- Prepare course, unit and lesson plans
- Understand different methods of teaching and learning
- Use appropriate teaching and learning aids
- Plan and deliver lectures effectively
- Provide feedback to students using various methods of Assessments and tools of Evaluation
- Act as a guide, advisor, counselor, facilitator, motivator and not just as a teacher alone

Signature of HOD

Signature of faculty

Date:

Date:



Academic Year	:	2021-2022		
Semester	:	Ι		
Name of the Program	n:	B. Tech	Year: III Year	Section: A / B
Course/Subject	:	Environmenta	l Engineering Lab	Course Code : GR18A3011
Name of the Faculty	: D	)r. K. Srikanth /	Mr. A. Prakash / Mr.	C Vanadeep

**Designation:** Associate/Assistant Professor

#### 1. TARGET:

- a) Percentage for pass: 100 %
- b) Percentage of class:

First class with distinction	
First class	
Pass class	
Total strength	

#### 2. COURSE PLAN& CONTENT DELIVERY

• 75 practice classes held for detailed demonstration of experiments and for analyzing real time experiments in the lab.

#### 3. METHOD OF EVALUATION

- 3.1 Continuous Assessment Examinations (CAE-I, CAE-II)
- 3.2 
  Assignments/Seminars
- 3.3 
  Mini Projects
- 3.4 🗆 Quiz
- 3.5 
  Semester/End Examination
- $3.6 \square$  Others

4. List out any new topic(s) or any innovation you would like to introduce in teaching the subjects in this Semester.

Signature	of	HO	D
Date:			

Signature of faculty Date:



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Assessment in relation to CO's and COB's

#### Assessment:

- 1. Assignment
- 2. Internal Examination
- 3. External Examination
- 4. Practical Projects
- 5. Viva

Course Outcomes Assessments	1	2	3	4	5
1	Х	Х	X	Х	Х
2	X	Х	X	Х	Х
3	X	X	X	X	Х
4					
5	X	X	X	X	Х

Course Objectives Assessments	1	2	3	4	5
1	Х	X	Х		
2	Х	X	Х	X	Х
3	Х	Х	Х	Х	Х
4					
5	Х	Х	Х	Х	Х



#### Gokaraju Rangaraju Institute of Engineering and Technology (Autonomous) Bachupally, Kukatpally, Hyderabad – 500 090. (040) 6686 4440 Mappings of CO's, COB's Vs PO's, POB's

#### **Course Objectives - Course Outcomes Relationship Matrix**

Course Outcomes Course Objectives	1	2	3	4	5
1	Х	Х			Х
2		Х		Х	
3	Х		Х	Х	
4	Х				X
5		X		Х	

#### Course Outcomes - Program Outcomes relations (Contributions: High, Medium and Low)

Environmental Engineering Lab (GR18A3011) CO's	a	B	c	d	e	f	g	h	i	j	k	l
<ol> <li>Summarize the knowledge of physical, chemical and biological parameters of water and their importance</li> </ol>	Н	Н		М			М					Н
2. Develop the social responsibility to eradicate water borne diseases	М	Н		Н								М
3. Identify the methods to control environmental pollution	М			М			Н					Н
<ol> <li>Classify the water quality parameters in written reports.</li> </ol>	Н	М					М			Н		
<ol> <li>Improve the various quality control aspects of industrial effluents by performing the different lab tests.</li> </ol>	Н	М							М	М		М

Program Outcomes Course Objectives	a	b	c	d	e	f	g	h	i	j	k	l
1	Х			X						х		x
2	х											
3	х								х			
4		х		х					х			
5	x			X						X		x

# **Course Objectives - Program Outcomes (PO's) Relationship Matrix**

# **Course Outcomes - Program Outcomes relations (PO's) Relationship Matrix**

Program Outcomes						e			•	•		
Course Outcomes	a	b	C	d	e	I	g	h	1	J	K	I
1	Х	х		х			Х					х
2	х	X		X								X
3	х			X			X					X
4	х	Х					X			Х		
5	х	X							X	Х		x

### Courses (with title & code)-Program Outcomes (PO's) Relationship Matrix Course: Environmental Engineering Lab

Program Outcomes												
Courses	a	В	c	d	e	f	g	h	Ι	j	k	l
1	Х	х		Х			Х	Х	Х	Х		Х

#### Program Educational Objectives (PEOs)- Course Outcomes Relationship Matrix

Program Educational Objectives Course Outcomes	1	2	3
1	Х		
2		X	
3	Х		X
4			X
5	Х		

Program Specific Objectives (PSOs)- Course Outcomes Relationship Matrix

Program Specific Objectives Course Outcomes	1	2
1	Х	
2		X
3	Х	
4		
5	X	



# **Rubric Template – Environmental Engineering Lab**

Academic Year	:	2021-2022		Date:		
Semester	:	Ι				
Name of the Program	n:	B. Tech	Year: III Year	Section: B		
Course/Subject	:	Environmenta	l Engineering Lab	Course Code : GR18A3011		
Name of the Faculty : Dr. K. Srikanth / Mr. A. Prakash / Mr. C Vanadeep Designation: Associate/Assistant Professor						

		Beginning	Developing	Reflecting Development	Accomplished	Exemplary	Score
Name of the Student	Performan ce Criteria	1	2	3	4	5	
		Inability to perform fundamental laboratory tests or collect, analyze, or synthesize appropriate data	Able to collect, analyze, and synthesize data related to the properties of water in the environmental laboratory	Ability to observe collection of samples, perform fundamental laboratory tests, and collect, analyze, and synthesize appropriate data.	Knowledge on collection of Samples & independently perform fundamental laboratory tests, and collect, analyze, and synthesize appropriate data with few procedural	Full knowledge on collection of soilsamples, independently perform fundamental laboratory tests, and collect, analyze, and synthesize appropriate data with no procedural	3
	Level of knowledge on properties of water and assessment using appropriate laboratory analysis.	Low level of knowledge on water properties and the respective laboratory analyses.	Able to understand the importance of vital water parameters and effecting factors.	Ability to apply the knowledge of water properties in choosing appropriate laboratory analysis	Full Knowledge on properties of water and assessment of vital parameters using laboratory analyses.	Analyzing all practical aspects of water properties and their key role in Protecting environment	4
x	Level of knowledge on biological parameters	Low level of knowledge on biological parameters of water and their	Able to understand the biological Parameters of soil under	Ability to apply the knowledge in the determination of biological	Full knowledge on biological parameters of water and the	Analyzing the importance of biological parameters of water under	4

of water and their real time application	real time applications.	various loading conditions.	parameters of water	respective laboratory analyses.	various existing conditions and their respective applications.	
5.	Inability to perform fundamental laboratory tests or collect, analyze, or synthesize appropriate data	Able to collect, analyze, and synthesize data related to the properties of water in the environmental laboratory	Ability to observe collection of samples, perform fundamental laboratory tests, and collect, analyze, and synthesize appropriate data.	Knowledge on collection of Samples & independently perform fundamental laboratory tests, and collect, analyze, and synthesize appropriate data with few procedural errors	Full knowledge on collection of soilsamples, independently perform fundamental laboratory tests, and collect, analyze, and synthesize appropriate data with no procedural errors	3
Level of knowledge on properties of water and assessment using appropriate laboratory	Low level of knowledge on water properties and the respective laboratory analyses.	Able to understand the importance of vital water parameters and effecting factors.	Ability to apply the knowledge of water properties in choosing appropriate laboratory analysis	Full Knowledge on properties of water and assessment of vital parameters using laboratory analyses.	Analyzing all practical aspects ofwaterl properties and their key role in Protecting environment	3
analysis. Level of knowledge on biological parameters of water and their real time application S.	Low level of knowledge on biological parameters of water and their real time applications.	Able to understand the biological Parameters of soil under various loading conditions.	Ability to apply the knowledge in the determination of biological parameters of water	Full knowledge on biological parameters of water and the respective laboratory analyses.	Analyzing the importance of biological parameters of water under various existing conditions and their respective applications.	4
Level of knowledge on fundament al laboratory tests and collect, analyze or synthesize appropriate data.	Inability to perform fundamental laboratory tests or collect, analyze, or synthesize appropriate data	Able to collect, analyze, and synthesize data related to the properties of water in the environmental laboratory	Ability to observe collection of samples, perform fundamental laboratory tests, and collect, analyze, and synthesize appropriate data.	Knowledge on collection of Samples & independently perform fundamental laboratory tests, and collect, analyze, and synthesize appropriate data with few procedural errors	Full knowledge on collection of soilsamples, independently perform fundamental laboratory tests, and collect, analyze, and synthesize appropriate data with no procedural errors	4

Х

		Low level of knowledge on water properties and the respective laboratory analyses.	Able to understand the importance of vital water parameters and effecting factors.	Ability to apply the knowledge of water properties in choosing appropriate laboratory analysis	Full Knowledge on properties of water and assessment of vital parameters using laboratory	Analyzing all practical aspects ofwaterl properties and their key role in Protecting environment	4
X	Level of knowledge on biological parameters of water and their real time application	Low level of knowledge on biological parameters of water and their real time applications.	Able to understand the biological parameters of soil under various loading conditions.	Ability to apply the knowledge in the determination of biological parameters of water	analyses. Full knowledge on biological parameters of water and the respective laboratory analyses.	Analyzing the importance of biological parameters of water under various existing conditions and their respective applications.	4 3

**Objectives:** To learn theory and practical aspects of Environmental engineering lab **Students Outcomes:** Learn applications of different Environmental Engineering lab and Hands on experience in research

#### GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY (Autonomous) Department of Civil Engineering Environmental Engineering Lab

Inter	nal Lab Exam questions			Marks: 10 marks
1.	a. Write about Presumptive coli form test b. Determine pH and Turbidity of given sample	[CO 3]		
2.	a. Write about Determination of B.O.D.	[CO2]		
3.	a. Write about determination of nitrogen	[CO 5]		
	b. Determine Acidity of given sample			
4.	a. Write about determination and Estimation of tota b. Determine Chlorides of given sample	l solids, organic	solids an [CO 4]	d inorganic solids
5.	a. Write about Determination of total phosphorous		[CO 1]	
	b. Determine Alkalinity of given sample			
6.	a. Write about Determination of iron		[CO 6]	
	b. Determine Dissolved oxygen of given sample.			
7.	a. Write about Determination of Dissolved oxygen		[CO 7]	
	b. Determine Iron of given sample			
8.	a. Write about Presumptive coli form test		[CO 2]	
	b. Determine Nitrogen of given sample			
9.	a. Write about Determination of B.O.D.		[CO 5]	
	b. Determine total phosphorous of given sample			
10.	a. Write about Determination of C.O.D.		[CO 4]	
	b. Determine chlorine demand of given sample.			
11.	a. Write about determination of nitrogen		[CO 3]	
	b. Determination of C.O.D.			
12.	a. Write about determination of phosphates		[CO 6]	
	b. Determine optimum coagulant dose of given samp	ole		