TEEGALA KRISHNA REDDY ENGINEERING COLLEGE

(Sponsored by TKR Educational Society, Approved by AICTE, Affiliated by JNTUH)

Medbowli, Meerpet, Saroornagar, Hyderabad – 500 097.

Phone: 040-24092838 Fax: +91-040-24092555

E-mail: tkrec@rediffmail.com Website: www.tkrec.ac.in

Department of Civil Engineering

CORRELATION OF THE COURSE OUTCOMES WITH THE POs'

PROGRAM OUTCOMES (POs'):

PO:1 **Engineering Knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems

PO:2 **Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching subsatined conclusions using first principles of mathematics, natural sciences, and engineering sciences

PO:3 **Design / development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations

PO:4 **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO:5 **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations

PO:6 **The engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO:7 **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO:8 **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO:9 **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO:10 **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO:11 **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO:12 **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs')

PSO :1	Ability to plan, analyzes, design, and execute projects in civil engineering.
PSO :2	Provide sustainable solutions to the civil engineering problems.

ACADEMIC YEAR 2017-18

Course Name: Mathematics-I (C1 11) for academic year 2017-18(I-I) (R16)

Items	Course Outcomes
C111.1	Identify whether the given first order differential equations are exact or Not.
C111.2	Write the matrix representation of a set of linear equations and to analyze the solution of the system of equations
C111.3	Find the Eigen values and Eigen vectors which come across under linear transformations.
C111.4	Find the extreme values of functions of two variables with/ without constraints.
C111.5	Solve higher order DE's and apply them for solving some real world problems.
C111.6	The student will be able to find a corresponding partial differential equation for an unknown function with many independent variables and find their solutions.

Course Name: Mathematics-I (C1 11) for academic year 2017-18(I-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 11.1	3	3	3	3	2	3	1	-	1	-	1	3	-	3
C1 11.2	3	3	2	2	2	2	2	-	1	-	1	2	3	2
C1 11.3	3	2	2	3	2	1	3	-	1	-	1	3	1	2
C1 11.4	3	3	3	3	3	1	2	-	1	-	1	3	2	-
C1 11.5	2	2	2	3	2	2	2	-	1	-	1	2	3	3
C1 11.6	2	3	2	3	3	2	1	-	1	-	1	3	3	2
Average	**3**	**3**	**2**	**3**	**2**	**2**	**2**	**0**	**1**	**0**	**1**	**3**	**2**	**2**

Course Name: Mathematics - II (C1 12) for academic year 2017-18 (II-I) (R16)

Items	Course Outcomes
C1 11.1	Able to find a root of a given equation and will be able to find a numerical solution for differential equation.
C1 11.2	Helps in describing the system by an ODE, if possible. Also suggests finding the solution as a first approximation.
C1 11.3	One will be able to find the expansion of a given function by Fourier series and Fourier transform function.
C1 11.4	Helps in phase transformation, Phase change and attenuation of coefficients in acoustics.
C1 11.5	Able to find a corresponding partial Differential equation for unknown function with many independent variables.
C1 11.6	One will be able to evaluate multiple integrals and convert lines integrals to area integrals and surface integrals to volume integrals.

Course Name: Mathematics - II (C1 12) for academic year 2017-18 (II-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 11.1	2	2	3	2	3	2	3	2	2	2	3	3	3	2
C1 11.2	2	3	3	2	2	2	3	2	2	3	2	3	3	3
C1 11.3	2	3	2	2	2	2	2	1	2	3	2	2	2	2
C1 11.4	3	3	3	2	2	2	3	2	2	3	2	3	3	2
C1 11.5	3	3	3	2	2	3	3	2	3	3	2	3	2	3
C1 11.6	3	3	2	2	2	3	2	1	3	3	2	2	3	2
Average	**3**	**3**	**3**	**2**	**2**	**2**	**3**	**2**	**2**	**3**	**2**	**3**	**3**	**2**

Course Name: Engineering Physics-I (C113) for academic year 2017-18 (I-I) (R16)

Items	Course Outcomes
C1 13.1	After completion of this course student will be able to realize the importance of light phenomena in thin films and its applications
C1 13.2	Student will be able to learn principle, working of various Laser systems and understand its applications.
C1 13.3	Helps students understand working of Optical fibers & its applications in various fields
C1 13.4	Student will be able to distinguish various crystal systems & understand its Atomic packing factor.
C1 13.5	Will help student understand various crystal defects.
C1 13.6	Will help student to understand how to apply X-Ray diffraction in order to study crystallography.

Course Name: Engineering Physics-I (C113) for academic year 2017-18 (I-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 13.1	2	3	2	1	2	2	2	-	1	1	1	2	1	1
C1 13.2	3	3	3	2	3	2	2	-	2	2	2	3	-	1
C1 13.3	3	2	2	2	2	1	3	-	2	1	1	2	-	1
C1 13.4	3	3	3	2	2	2	2	-	2	1	1	3	1	1
C1 13.5	2	3	3	2	2	3	2	-	1	2	2	3	1	1
C1 13.6	3	3	3	2	1	2	2	-	2	1	1	3	2	1
Average	**3**	**3**	**3**	**2**	**2**	**2**	**2**	**0**	**2**	**1**	**1**	**3**	**1**	**1**

Course Name: Computer Programming in C (C1 14) for academic year 2017-18 (I-I) (R16)

Items	Course Outcomes
C1 14.1	The student understands the applications of computer and C program and their functioning.
C1 14.2	The student gains the knowledge on functions and arrays concepts.
C1 14.3	The student learns the concepts on pointers and strings.
C1 14.4	The student understands the basic data structure and be able to write C programs.
C1 14.5	The student gains knowledge on searching and sorting methods.
C1 14.6	The student will gin knowledge on basic concepts and idea on computer programming.

Course Name: Computer Programming in C (C1 14) for academic year 2017-18 (I-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 14.1	2	3	3	3	2	3	2	-	2	3	3	3	3	1
C1 14.2	2	3	3	3	1	3	2	-	2	3	3	3	3	2
C1 14.3	1	2	2	3	2	2	1	-	1	2	2	1	2	1
C1 14.4	1	3	2	3	2	3	2	-	2	1	3	3	2	2
C1 14.5	3	3	3	1	1	3	1	-	2	3	2	3	3	1
C1 14.6	2	2	3	3	2	2	3	-	1	3	3	3	3	1
Average	**2**	**3**	**3**	**3**	**2**	**3**	**2**	**-**	**2**	**3**	**3**	**3**	**3**	**1**

Course Name: Engineering Mechanics (C1 15) for academic year 2017-18 (I-I) (R16)

Items	Course Outcomes
C1 15.1	To understand the resolving forces and moments for a given force system.
C1 15.2	To analyze the types of friction for moving bodies and problems related to friction.
C1 15.3	To determine the centroid and second moment of area.
C1 15.4	To understand the Mass moment of inertia and virtual work.
C1 15.5	To determine the kinetics and D'Alemberts principle.
C1 15.6	To understand the simple harmonic machine and simple compound pendulum.

Course Name: Engineering Mechanics (C1 15) for academic year 2017-18 (I-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 15.1	3	2	2	3	2	2	2	-	1	-	1	3	2	2
C1 15.2	3	3	2	3	2	2	2	-	1	-	1	3	2	2
C1 15.3	3	3	2	3	1	2	1	-	1	-	1	3	2	1
C1 15.4	3	3	2	3	1	2	2	-	1	-	1	3	2	2
C1 15.5	3	3	2	2	2	2	1	-	1	-	1	2	2	2
C1 15.6	3	3	2	2	2	2	2	-	1	-	1	2	1	2
Average	**3**	**3**	**2**	**3**	**2**	**2**	**2**	**0**	**1**	**0**	**1**	**3**	**2**	**2**

Course Name: Engineering Graphics (C1 16) for academic year 2017-18 (I-I) (R16)

Items	Course Outcomes
C1 16.1	Create the convention model for engineering graphics.
C1 16.2	Examine the plane curves and free hand sketching.
C1 16.3	Outline the projections of points, lines and plane.
C1 16.4	Outline the projections of simple solids and their sectional views
C1 16.5	Development of surfaces.
C1 16.6	Evaluate isometric and perspective projections

Course Name: Engineering Graphics (C1 16) for academic year 2017-18 (I-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 16.1	1	2	3	1	2	2	2	1	2	1	2	3	3	3
C1 16.2	1	2	3	1	2	2	2	1	2	1	2	3	2	3
C1 16.3	1	2	3	1	1	2	1	1	2	1	1	3	3	3
C1 16.4	1	2	3	1	2	2	2	1	2	1	2	3	2	2
C1 16.5	1	2	2	1	1	2	1	1	2	1	1	3	3	2
C1 16.6	1	2	2	1	2	2	2	1	2	1	2	3	3	3
Average	**1**	**2**	**3**	**1**	**2**	**2**	**2**	**1**	**2**	**1**	**2**	**3**	**3**	**3**

Course Name: Engineering Physics Lab (C1 17) for academic year 2017-18 (I-I) (R16)

Items	Course Outcomes
C1 17.1	The student will be able to learn from this laboratory course the concept of error and it's analysis
C1 17.1	The student will be able to develop experimental skills to design new experiments in engineering
C1 17.1	The student can compare the theory and correlate with experiment
C1 17.1	The student will be able to understand various tools like screw gauge , vernier calipers , physical balance , spectrometer and microscope
C1 17.1	The student will gain practical knowledge
C1 17.1	By determining time constant the student would be able to design RC , RLC circuits

Course Name: Engineering Physics Lab (C1 17) for academic year 2017-18 (I-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 17.1	2	3	2	2	2	1	2	-	1	1	2	2	-	1
C1 17.1	3	3	2	2	3	2	2	-	2	2	1	2	-	1
C1 17.1	3	2	3	1	2	2	3	-	2	1	1	3	-	1
C1 17.1	3	3	3	2	2	2	2	-	1	1	1	3	-	1
C1 17.1	2	3	3	2	2	3	2	-	2	2	2	3	-	1
C1 17.1	3	3	3	2	1	2	2	-	2	1	1	3	-	1
Average	**3**	**3**	**3**	**2**	**2**	**2**	**2**	**0**	**2**	**1**	**1**	**3**	**0**	**1**

Course Name: Computer Programming C Lab (C1 18) for academic year 2017-18 (I-I) (R16)

Items	Course Outcomes
C1 18.1	The student will be able to write 'C' program to solve problems.
C1 18.2	The student understands the concept of data structure in 'C' programming.
C1 18.3	The student gains knowledge on functions concepts of array and pointer.
C1 18.4	The student understands the concepts of lists, stacks and queues.
C1 18.5	The student gains thorough knowledge in simple searching and sorting methods.
C1 18.6	The student will be able to efficient program in 'C' to solve the problems of their discipline.

Course Name: Computer Programming C Lab (C1 18) for academic year 2017-18 (I-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 18.1	2	3	3	3	2	3	2	-	2	3	3	3	3	1
C1 18.2	2	3	3	3	1	3	2	-	2	3	3	3	3	2
C1 18.3	1	2	2	3	2	2	1	-	1	2	2	1	2	1
C1 18.4	1	3	2	3	2	3	2	-	2	1	3	3	2	2
C1 18.5	3	3	3	1	1	3	1	-	2	3	2	3	3	1
C1 18.6	2	2	3	3	2	2	3	-	1	3	3	3	3	1
Average	**2**	**3**	**3**	**3**	**2**	**3**	**2**	**0**	**2**	**3**	**3**	**3**	**3**	**1**

Course Name: Engineering Physics-II (C1 21) for academic year 2017-18 (I-II) (R16)

Items	Course Outcomes
C1 21.1	Realize the importance of behavior of a particle quantum mechanically.
C1 21.2	Learn concentration estimation of charge carriers in semi conductors.
C1 21.3	Learn various magnetic dielectric properties and apply them in engineering applications.
C1 21.4	Know the basic principles and applications of super conductors.
C1 21.5	The students will be knowledge on new advancement in engineering field like nano-technology and their applications
C1 21.6	The student gains knowledge on fundamentals of quantum mechanics and be able to apply it to various systems like communications solar cells, photo cells and so on.

Course Name: Engineering Physics-II (C1 21) for academic year 2017-18 (I-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 21.1	2	3	2	1	2	2	2	-	1	1	1	2	1	1
C1 21.2	3	3	3	2	3	2	2	-	2	2	2	3	-	1
C1 21.3	3	2	2	2	2	1	3	-	2	1	1	2	-	1
C1 21.4	3	3	3	2	2	2	2	-	2	1	1	3	1	1
C1 21.5	2	3	3	2	2	3	2	-	1	2	2	3	1	1
C1 21.6	3	3	3	2	1	2	2	-	2	1	1	3	2	1
Average	**3**	**3**	**3**	**2**	**2**	**2**	**2**	**0**	**2**	**1**	**1**	**3**	**1**	**1**

Course Name: Engineering Chemistry (C1 22) for academic year 2017-18(I-II) (R16)

Items	Course Outcomes
C1 22.1	Students will gain the basic knowledge of electrochemical procedures related to corrosion and its control.
C1 22.2	They can understand the basic properties of water and its usage in domestic and industrial purposes.
C1 22.3	They learn the use of fundamental principles to make predictions about the general properties of materials.
C1 22.4	They can predict potential applications of chemistry and practical utility in order to become good engineers and entrepreneurs
C1 22.5	The student will be able to reinforce the connection between science and engineering
C1 22.6	The student will gain an in-depth understanding of chemistry to solve global problems and issues.

Course Name: Engineering Chemistry (C1 22) for academic year 2017-18(I-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 22.1	2	3	2	3	3	3	2	-	2	1	1	2	-	1
C1 22.2	2	2	3	3	2	3	2	-	2	1	1	3	-	1
C1 22.3	2	2	2	3	3	3	2	-	2	1	1	3	-	1
C1 22.4	2	3	2	3	3	3	2	-	2	1	1	3	-	1
C1 22.5	2	2	2	2	3	2	2	-	2	1	1	3	-	1
C1 22.6	2	2	2	3	3	3	3	-	2	1	1	3	-	1
Average	**2**	**2**	**2**	**3**	**3**	**3**	**2**	**0**	**2**	**1**	**1**	**3**	**0**	**1**

Course Name: Mathematics-III (C1 23) for academic year 2017-18(I-II) (R16)

Items	Course Outcomes
C1 23.1	Differentiate Among Random Variables Involved In The Probability Models Which Are Useful For All Branches Of Engineering.
C1 23.2	Calculate Mean, Proportions And Variances Of Sampling Distributions And To Make Important Decisions S For Few Samples Which Are Taken From A Large Data.
C1 23.3	Solve The Tests Of ANOVA For Classified Data.
C1 23.4	Find The Root Of A Given Equation And Solution Of A System Of Equations. Fit A Curve For A Given Data.
C1 23.5	Find The Numerical Solutions For A Given First Order Initial Value Problem.
C1 23.6	Fitting of a Curve For A Given Data.

Course Name: Mathematics-III (C1 23) for academic year 2017-18(I-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 23.1	3	3	3	3	2	3	1	-	1	-	1	3	-	3
C1 23.2	3	3	2	2	2	2	2	-	1	-	1	2	3	2
C1 23.3	3	2	3	3	2	1	3	-	1	-	1	3	1	2
C1 23.4	2	2	2	3	3	2	2	-	2	-	2	3	2	-
C1 23.5	2	3	2	3	2	2	2	-	1	-	1	2	3	3
C1 23.6	3	3	2	3	2	2	1	-	1	-	1	3	3	2
Average	**3**	**3**	**2**	**3**	**2**	**2**	**2**	**0**	**1**	**0**	**1**	**3**	**2**	**2**

Course Name: Professional Communication in English (C1 24) for academic year 2017-18 (I-II) (R16)

Items	Course Outcomes
C1 24.1	Use English Language effectively in spoken and written forms.
C1 24.2	Comprehend the given texts and respond appropriately.
C1 24.3	Communicate confidently in formal and informal contexts.
C1 24.4	Train the students to acquire language skills like (Listening, Speaking, Reading and Writing).
C1 24.5	Focus to be on the skills development in the areas of vocabulary, grammar, reading and writing.
C1 24.6	Improve students' Reference and Study Skills in order to face interviews.

Course Name: Professional Communication in English (C1 24) for academic year 2017-18(I-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 24.1	3	1	1	2	2	2	3	3	2	3	3	3	-	2
C1 24.2	2	1	2	1	1	1	3	3	3	3	3	3	-	2
C1 24.3	3	1	3	1	2	3	2	3	3	3	3	3	-	1
C1 24.4	2	1	2	1	2	2	3	3	3	3	2	3	-	2
C1 24.5	3	2	3	1	3	2	3	3	3	2	3	2	-	3
C1 24.6	3	1	2	1	1	2	3	2	3	3	3	3	-	2
Average	**3**	**1**	**2**	**1**	**2**	**2**	**3**	**3**	**3**	**3**	**3**	**3**	**0**	**2**

Course Name: Basic Electrical and Electronics Engineering (C1 25) for academic year 2017-18 (I-II) (R16)

Items	Course Outcomes
C1 25.1	Ability to understand the concepts of electrical networks and network parameters
C1 25.2	To analyze and solve problems of electrical circuits using network laws and theorems.
C1 25.3	Ability to understand the concepts of single phase AC circuits and resonance.
C1 25.4	To identify and characterize various types of diodes
C1 25.5	Ability to discuss the various types of transistors.
C1 25.6	Understand the concepts of transistor configurations.

Course Name: Basic Electrical and Electronics Engineering (C1 25) for academic year 2017-18 (I-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 25.1	3	3	3	2	3	1	2	2	2	1	1	1	3	3
C1 25.2	3	3	2	2	2	2	2	1	2	1	1	2	2	2
C1 25.3	3	2	2	2	1	1	1	1	1	1	1	1	3	2
C1 25.4	3	3	3	2	1	1	1	1	1	1	1	2	3	2
C1 25.5	2	2	2	2	2	1	2	1	1	1	1	2	3	1
C1 25.6	2	3	3	2	2	1	2	2	1	1	1	2	2	3
Average	**3**	**3**	**3**	**2**	**2**	**1**	**2**	**1**	**1**	**1**	**1**	**2**	**3**	**2**

Course Name: Engineering Chemistry Lab (C1 26) for academic year 2017-18 (I-II) (R16)

Items	Course Outcomes
C1 26.1	Students are able to estimate the impurities present in water.
C1 26.2	Ability to select lubricants for various purposes.
C1 26.3	Ability to prepare advanced polymer materials
C1 26.4	Ability to know the strength of an acid present in secondary batteries.
C1 26.5	Ability to find the Fe+2, Ca & Cl- present in unknown substances/ ores using titrimetric and instrumental methods.
C1 26.6	Ability to apply chemical principles in Science & Technology.

Course Name: Engineering Chemistry Lab (C1 26) for academic year 2017-18 (I-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 26.1	2	3	2	2	2	1	2	-	1	1	2	2	-	1
C1 26.2	3	3	2	2	3	2	2	-	2	2	1	2	-	1
C1 26.3	3	2	3	1	2	2	3	-	2	1	1	3	-	1
C1 26.4	3	3	3	2	2	2	2	-	1	1	1	3	-	1
C1 26.5	2	3	3	2	2	3	2	-	2	2	2	3	-	1
C1 26.6	3	3	3	2	1	2	2	-	2	1	1	3	-	1
Average	**3**	**3**	**3**	**2**	**2**	**2**	**2**	**0**	**2**	**1**	**1**	**3**	**0**	**1**

Course Name: English Language Communication Skills Lab (C1 27) for academic year 2017-18 (I-II) (R16)

Items	Course Outcomes
C1 27.1	The student will gain better understanding of pronounces of language through audio-visual experience
C1 27.1	The student will gain understanding of pronounces of language through group activities.
C1 27.1	The student will gain knowledge on neutralization of accent for intelligibility.
C1 27.1	The student will be able to speak with clarity
C1 27.1	The student will gain confidence thereby enhancing employability skills of the students
C1 27.1	The student will be able to present his technical knowledge in a confident manner to the outside world.

Course Name: English Language Communication Skills Lab (C1 27) for academic year 2017-18 (I-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 27.1	3	2	3	2	2	2	3	3	2	3	3	3	1	1
C1 27.2	2	1	2	1	1	3	3	3	3	3	2	3	2	1
C1 27.3	3	1	3	1	3	2	3	3	3	3	3	2	-	2
C1 27.4	3	1	2	1	1	3	3	2	3	3	3	3	1	2
C1 27.5	3	1	2	1	2	1	2	3	3	2	3	3	1	1
C1 27.6	2	1	2	1	3	1	3	3	3	3	3	3	2	1
Average	**3**	**1**	**2**	**1**	**2**	**2**	**3**	**3**	**3**	**3**	**3**	**3**	**1**	**1**

Course Name: Engineering Workshop (C1 28) for academic year 2017-18 (I-II) (R16)

Items	Course Outcomes
C1 28.1	Model the simple wooden joints using wood working tools
C1 28.2	Classify the fitting usage of square joint, L joint and stepped joints
C1 28.3	Knowledge about Tin – smithy and jobs carried out and soldering
C1 28.4	Develop the operation of house wiring circuits
C1 28.5	Create simple lap, butt and tee joints using arc welding equipments
C1 28.6	Apply the suitable tools for electrical and mechanical engineering in construction

Course Name: Engineering Workshop (C1 28) for academic year 2017-18 (I-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C1 28.1	3	3	2	3	3	2	3	3	2	3	2	3	3	3
C1 28.2	3	2	2	3	3	2	3	3	3	3	2	3	3	3
C1 28.3	2	2	2	3	2	2	2	2	3	2	3	3	3	3
C1 28.4	3	2	2	2	3	2	3	2	3	3	2	2	2	2
C1 28.5	3	3	3	3	3	2	3	3	3	3	3	3	3	3
C1 28.6	2	2	3	3	2	2	2	3	3	2	2	3	3	3
Average	**3**	**2**	**2**	**3**	**3**	**2**	**3**	**3**	**3**	**3**	**2**	**3**	**3**	**3**

Course Name: Mathematics-IV (C21 1) for academic year 2017-18(II-I) (R16)

Items	Course Outcomes
C21 1.1	Differentiation and integration of complex valued functions.
C21 1.2	Evaluation of integrals using Cauchy's integral formula.
C21 1.3	Laurent's series expansion of complex functions.
C21 1.4	Evaluation of integrals using Residue theorem.
C21 1.5	Express a periodic function by Fourier series and a non-periodic function by Fourier Transform.
C21 1.6	To analyze the displacements of one dimensional wave and distribution of one Dimensional heat equation.

Course Name: Mathematics-IV (C21 1) for academic year 2017-18(II-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C21 1.1	2	2	3	2	3	2	3	2	2	2	3	3	3	2
C21 1.2	2	3	3	2	2	2	3	2	2	3	2	3	3	3
C21 1.3	2	3	2	2	2	2	2	1	2	3	2	2	2	2
C21 1.4	3	3	3	2	2	2	3	2	2	3	2	3	3	2
C21 1.5	3	3	3	2	2	3	3	2	3	3	2	3	2	3
C21 1.6	3	3	2	2	2	3	2	1	3	3	2	2	3	2
Average	**3**	**3**	**3**	**2**	**2**	**2**	**3**	**2**	**2**	**3**	**2**	**3**	**3**	**2**

Course Name: Strength of Materials - I (C2 12) for academic year 2017-18 (II-I) (R16)

Items	Course Outcomes
C2 12.1	Apply the linear laws of elasticity as related to stress and strain.
C2 12.2	Explain the concept of shear force and bending moment in different types of beams.
C2 12.3	Analyze the bending stress on different types of sections.
C2 12.4	Understands about Shear stresses.
C2 12.5	Determine the effect of combined axial and bending stress.
C2 12.6	Demonstrate the use of critical thinking and problem solving techniques as applied to mechanical and structural systems.

Course Name: Strength of Materials-I (C2 12) for academic year 2017-18 (II-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 12.1	3	3	3	2	2	2	2	3	2	3	2	3	3	2
C2 12.2	3	3	3	2	2	2	2	3	2	3	2	3	3	3
C2 12.3	3	3	3	3	2	2	2	3	3	3	3	3	3	2
C2 12.4	3	3	3	3	2	2	2	2	3	2	3	2	2	3
C2 12.5	3	3	3	3	2	2	2	3	2	3	2	3	3	2
C2 12.6	3	2	2	2	1	2	1	2	3	2	3	2	2	3
Average	**3**	**3**	**3**	**3**	**2**	**2**	**2**	**3**	**3**	**3**	**3**	**3**	**3**	**3**

Course Name: Fluid Mechanics-I (C2 13) for academic year 2017-18 (II-I) (R16)

Items	Course outcomes
C2 13.1	Understand about the introduction of fluid mechanics and dimensions and units.
C2 13.2	To understand the physical properties of fluids and measurement of pressure and hydrostatic forces.
C2 13.3	Understand the fluid kinematics and description of fluid flow and classification of flows.
C2 13.4	Understand about fluid dynamics and surfaces and body forces.
C2 13.5	To understand the boundary layer theory and approximation solutions of navier stoke's equations.
C2 13.6	Demonstrate the closed conduit flow, Reynold's experiment and characteristics of laminar and turbulent flow sand different types of flow frictions.

Course Name: Fluid Mechanics-I (C2 13) for academic year 2017-18 (II-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 13.1	3	3	3	3	2	3	3	2	2	2	3	3	3	3
C2 13.2	3	3	3	3	3	3	3	2	3	3	3	3	3	3
C2 13.3	2	3	2	3	3	3	3	2	3	2	3	3	3	3
C2 13.4	3	3	3	3	3	3	3	2	3	2	3	3	3	3
C2 13.5	3	3	3	3	3	3	2	2	3	3	3	3	3	3
C2 13.6	3	3	3	2	2	3	3	2	2	2	2	3	3	3
Average	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**2**	**3**	**2**	**3**	**3**	**3**	**3**

Course Name: Building materials, construction and planning (C2 14) for academic year 2017-18 (II-I) (R16)

Items	Course Outcomes
C2 14.1	Understands about different types of building materials.
C2 14.2	Understands about different types of cement properties and tests.
C2 14.3	Understands building components like Lintels, Arches, and Vaults-stair cases etc.
C2 14.4	Understands about Alternative materials for wood, Galvanized Iron, Fiber-reinforced plastics, steel, Aluminum
C2 14.5	Understands about Masonry and finishing.
C2 14.6	Understands about Principal of building planning & Building by laws.

Course Name: Building materials, construction and planning (C2 14) for academic year 2017-18 (II-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 14.1	3	3	2	3	3	2	3	2	3	2	2	3	3	2
C2 14.2	3	3	3	3	3	3	3	1	3	2	3	3	3	2
C2 14.3	3	3	3	3	3	3	3	2	3	2	3	3	2	2
C2 14.4	3	3	3	3	3	3	3	1	3	2	3	3	3	3
C2 14.5	3	2	3	3	2	3	3	2	3	2	3	3	3	2
C2 14.6	3	2	3	3	2	3	3	2	3	2	3	3	3	3
Average	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**2**	**3**	**2**	**3**	**3**	**3**	**2**

Course Name: Surveying (C2 15) for academic year 2017-18 (II-I) (R16)

Items	Course Outcomes
C2 15.1	Understands the computation of distance and direction.
C2 15.2	Understands about leveling and contouring.
C2 15.3	Understands the computation of area and volume.
C2 15.4	Understands the computation of horizontal and vertical angle.
C2 15.5	Understands the tachometric surveying.
C2 15.6	To learn about advanced surveying.

Course Name: Surveying (C2 15) for academic year 2017-18 (II-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 15.1	3	3	2	3	3	2	3	3	2	3	2	3	3	3
C2 15.2	3	2	2	3	3	2	3	3	3	3	2	3	3	3
C2 15.3	2	2	2	3	2	2	2	2	3	2	3	3	3	3
C2 15.4	3	2	2	2	3	2	3	2	3	3	2	2	2	2
C2 15.5	3	3	3	3	3	2	3	3	3	3	3	3	3	3
C2 15.6	2	2	3	3	2	2	2	3	3	2	2	3	3	3
Average	**3**	**2**	**2**	**3**	**3**	**2**	**3**	**3**	**3**	**3**	**2**	**3**	**3**	**3**

Course Name: Strength of Materials Lab (C2 16) for academic year 2017-18 (II-I) (R16)

Items	Course Outcomes
C2 16.1	Determine the important mechanical properties of materials & Understanding the effect of tension in mild steel bars under tensile loading.
C2 16.2	Skill to examine the resistance of various materials using hardness test and impact test to Identify the resistance of materials against impact loads.
C2 16.3	Find the modulus of rigidity in springs using spring test and Identify the stiffness of an elastic isotropic material.
C2 16.4	Measure any substance's resistance to uniform compression also resistance of various materials against abrasion. Assess the quality of materials.
C2 16.5	Knowledge of pure bending theory and evaluate the Young's modulus of materials.
C2 16.6	Visualizations of the importance of Maxwell's reciprocal theorem.

Course Name: Strength of Materials Lab (C2 16) for academic year 2017-18 (II-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 16.1	3	3	3	2	3	3	2	3	2	2	3	2	3	3
C2 16.2	3	3	3	3	3	3	2	3	3	2	2	3	3	3
C2 16.3	3	2	3	3	2	3	3	2	3	3	2	3	3	3
C2 16.4	3	3	3	3	3	3	2	3	3	2	2	3	3	3
C2 16.5	3	3	3	3	3	3	3	3	3	3	3	3	3	3
C2 16.6	3	2	3	3	3	3	2	2	3	2	2	3	3	3
Average	**3**	**3**	**3**	**3**	**3**	**3**	**2**	**3**	**3**	**2**	**2**	**3**	**3**	**3**

Course Name: Computer Aided Design –I Lab (C2 17) for academic year 2017-18 (II-I) (R16)

Items	Course Outcomes
C2 17.1	Comprehend the fundamentals of Building Drawings.
C2 17.2	Analyze the Concept of Design Problems with Field Orientation.
C2 17.3	Demonstrate common drafting techniques and shortcuts used by professionals.
C2 17.4	Demonstrates a readiness to take action to perform the task or objective in field.
C2 17.5	Compare different values, and resolve conflicts between them to form an internally consistent system of values in Drawings.
C2 17.6	Adopts a long-term value system that is "pervasive, consistent, and predictable" throughout the Draftsman's Career and apply full-scale CAD software system for geometric modeling

Course Name: Computer Aided Design –I Lab (C2 17) for academic year 2017-18 (II-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 17.1	3	2	3	3	2	2	2	2	2	2	2	2	3	3
C2 17.2	3	3	3	3	3	2	3	2	3	2	3	3	3	3
C2 17.3	3	3	3	3	3	2	3	2	3	2	3	3	3	3
C2 17.4	3	3	3	3	3	2	3	2	3	2	3	3	3	3
C2 17.5	2	3	3	2	3	2	3	2	3	2	3	3	3	3
C2 17.6	2	3	3	2	3	2	3	2	3	2	3	3	3	3
Average	**3**	**3**	**3**	**3**	**3**	**2**	**3**	**2**	**3**	**2**	**3**	**3**	**3**	**3**

Course Name: Survey lab- I (C2 18) for academic year 2017-18 (II-I) (R16)

Items	Course Outcomes
C2 18.1	Define the characteristics and applications of basic survey instruments and Calculate distances, inclinations, elevations, areas and volumes.
C2 18.2	Generalize the methods of obtaining geographical information.
C2 18.3	Apply knowledge of mathematics, science and engineering in land measurement techniques.
C2 18.4	Calculate distances, inclinations, elevations, areas and volumes and Generate maps of earth surfaces.
C2 18.5	Analyze data from existing maps and transfer relevant points onto ground.
C2 18.6	Evaluate the compatibility of instruments.

Course Name: Survey lab- I (C2 18) for academic year 2017-18 (II-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 18.1	2	3	3	3	2	3	3	3	3	2	3	3	3	3
C2 18.2	3	3	3	3	3	3	3	3	2	2	2	3	3	3
C2 18.3	3	3	3	2	3	3	2	3	2	3	3	3	3	3
C2 18.4	3	3	3	3	3	3	3	3	2	2	2	3	3	3
C2 18.5	3	3	3	3	3	3	3	3	3	2	2	3	3	3
C2 18.6	3	2	3	3	3	3	2	3	2	2	2	3	3	3
Average	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**2**	**2**	**2**	**3**	**3**	**3**

Course Name: Gender Sensitization Lab (C2 19) for academic year 2017-18 (II-I) (R16)

Items	Course Outcomes
C2 19.1	Students will have developed a better understanding of important issues related to gender in contemporary India.
C2 19.2	Students will be sensitized to basic dimensions of the biological, sociological, Psychological and legal aspects of gender. This will be achieved through discussion of materials derived from research, facts, Everyday life Literature and film
C2 19.3	Students will attain a finer grasp of how gender discrimination works in our society and how to counter it
C2 19.4	Students will acquire insight into the gendered division of labour and its relation to Politics and economics.
C2 19.5	Men and women students and professionals will be better equipped to work and live together as equals
C2 19.6	Students will develop a sense of appreciation of women in all walks of life.

Course Name: Gender Sensitization Lab (C2 19) for academic year 2017-18 (II-I) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 19.1	3	1	1	2	2	2	3	3	2	3	3	3	-	2
C2 19.2	2	1	2	1	1	1	3	3	3	3	3	3	-	2
C2 19.3	3	1	3	1	2	3	2	3	3	3	3	3	-	1
C2 19.4	2	1	2	1	2	2	3	3	3	3	2	3	-	2
C2 19.5	3	2	3	1	3	2	3	3	3	2	3	2	-	3
C2 19.6	3	1	2	1	1	2	3	2	3	3	3	3	-	2
Average	**3**	**1**	**2**	**1**	**2**	**2**	**3**	**3**	**3**	**3**	**3**	**3**	**0**	**2**

Course Name: Strength of Materials - II (C2 21) for academic year 2017-18 (II-II) (R16)

Items	Course Outcomes
C2 21.1	Develop an understanding of material behavior under a condition of pure torsion (twisting moment) on circular shafts.
C2 21.2	Develop an understanding of analytic methods used in connection with the structural design of columns, long mechanical members under compression.
C2 21.3	Understand about direct stress and bending stress and Beam curved in plan.
C2 21.4	To study the Thin cylinder s and Thick cylinders.
C2 21.5	Understand about unsymmetrical bending.
C2 21.6	To study the shear centres for symmetrical and unsymmetrical.

Course Name: Strength of Materials - II (C2 21) for academic year 2017-18 (II-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 21.1	3	3	3	3	3	2	2	2	2	3	3	3	3	3
C2 21.2	3	3	3	3	3	2	2	2	2	3	3	3	3	3
C2 21.3	3	3	3	3	3	2	2	2	2	3	3	3	3	3
C2 21.4	3	3	3	3	3	2	2	2	2	3	3	3	3	3
C2 21.5	3	3	3	3	3	2	2	2	2	3	3	3	3	3
C2 21.6	3	3	2	3	3	2	2	2	2	3	3	3	3	3
Average	**3**	**3**	**3**	**3**	**3**	**2**	**2**	**2**	**2**	**3**	**3**	**3**	**3**	**3**

Course Name: Fluid Mechanics - II (C2 22) for academic year 2017-18 (II-II) (R16)

Items	Course Outcomes
C2 22.1	To Understands about different types of open channels, flow section and most economical section.
C2 22.2	To study the Dimensional analysis and similitude.
C2 22.3	Understands Hydrodynamic force on jets.
C2 22.4	Understands about hydraulic turbines.
C2 22.5	Understands about Centrifugal pumps.
C2 22.6	Understands about Reciprocating pumps

Course Name: Fluid Mechanics - II (C2 22) for academic year 2017-18 (II-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 22.1	3	3	3	2	3	2	2	1	2	1	1	2	3	3
C2 22.2	3	3	3	2	3	2	2	1	2	1	1	2	3	3
C2 22.3	3	3	3	2	3	2	2	1	2	1	1	2	3	3
C2 22.4	3	3	3	2	3	2	2	1	2	1	1	2	3	3
C2 22.5	3	3	3	2	3	2	2	1	2	1	1	2	3	3
C2 22.6	3	3	3	2	3	2	2	1	2	1	1	2	3	3
Average	**3**	**3**	**3**	**2**	**3**	**2**	**2**	**1**	**2**	**1**	**1**	**2**	**3**	**3**

Course Name: Structural analysis (C2 23) for academic year 2017-18 (II-II) (R16)

Items	Course Outcomes
C2 23.1	Ability to analyze statically determinate trusses, beams, and frames and obtain internal loading.
C2 23.2	Ability to analyze cable and arch structures.
C2 23.3	Ability to obtain the influence lines for statically determinate and indeterminate structures.
C2 23.4	Ability to determine deflections of beams and frames using classical methods.
C2 23.5	Ability to solve statically indeterminate structures using classical methods.
C2 23.6	Ability to solve statically indeterminate structures using matrix (stiffness) method.

Course Name: Structural analysis (C2 23) for academic year 2017-18 (II-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 23.1	3	2	3	3	2	3	2	2	3	3	2	3	3	3
C2 23.2	3	3	3	3	3	3	1	1	3	3	3	3	3	2
C2 23.3	3	3	3	3	3	3	2	2	3	3	3	3	3	2
C2 23.4	3	3	3	3	3	3	1	2	3	3	3	3	2	2
C2 23.5	2	3	3	2	3	3	2	2	3	2	3	3	3	2
C2 23.6	2	3	3	2	3	3	2	2	3	2	3	3	3	3
Average	**3**	**3**	**3**	**3**	**3**	**3**	**2**	**2**	**3**	**3**	**3**	**3**	**3**	**2**

Course Name: Engineering geology (C2 24) for academic year 2017-18 (II-II) (R16)

Items	Course Outcomes
C2 24.1	To know importance of weathering with reference to dams, reservoirs and tunnels weathering of common rock like Granite.
C2 24.2	To understand advantages of study of minerals by physical properties.
C2 24.3	To know about importance of study of ground water, earthquake and landslides.
C2 24.4	To understand about fundamental aspects of rock mechanics and environmental geology.
C2 24.5	To learn about purposes of tunneling and effects of tunneling.
C2 24.6	To understand about role of geological considerations (Lithological, structural and ground water) in tunneling.

Course Name: Engineering geology (C2 24) for academic year 2017-18 (II-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 24.1	3	2	2	2	1	2	2	2	2	2	2	2	2	2
C2 24.2	3	1	2	3	1	1	2	1	2	1	2	1	2	3
C2 24.3	3	2	2	3	1	2	2	2	2	2	2	2	2	2
C2 24.4	3	1	2	3	1	1	2	1	2	1	2	1	2	3
C2 24.5	2	2	2	3	1	2	2	2	2	2	2	2	2	2
C2 24.6	2	2	2	3	1	2	2	2	2	2	2	2	2	2
Average	**3**	**2**	**2**	**3**	**1**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**

Course Name: Business Economics and Financial Analysis (C2 25) for academic year 2017-18 (II-II) (R16)

Items	Course Outcomes
C2 25.1	To learn the basic Business types, impact of the Economy on Business and Firms specifically.
C2 25.2	To analyze the Business from the Financial Perspective.
C2 25.3	The students will understand the various Forms of Business and the impact of economic variables on the Business.
C2 25.4	The Demand, Supply, Production, Cost, Market Structure, Pricing aspects are learnt.
C2 25.5	The Students can study the firm's financial position by analysing the Financial Statements of a company
C2 25.6	To understand the Financial Analysis through Ratios.

Course Name: Business Economics and Financial Analysis (C2 25) for academic year 2017-18 (II-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 25.1	3	2	3	3	3	2	3	3	3	3	2	3	2	2
C2 25.2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
C2 25.3	2	2	2	2	2	2	2	2	2	2	2	2	2	1
C2 25.4	2	2	2	2	2	2	2	1	2	2	2	1	2	2
C2 25.5	2	2	3	2	3	2	3	2	2	3	2	2	2	2
C2 25.6	2	2	2	2	2	2	2	1	2	2	2	1	1	2
Average	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**

Course Name: Fluid Mechanics lab (C2 26) for academic year 2017-18 (II-II) (R16)

Items	Course Outcomes
C2 26.1	Determine coefficient of discharge for orifice and Mouthpiece.
C2 26.2	Able to differentiate among measurement techniques their relevance and applications.
C2 26.3	Practical understanding of Minor and friction losses in pipe flows.
C2 26.4	Understand practical working of Hydraulic machines- different types of Turbines, Pumps, and Machines.
C2 26.5	Understand miscellaneous hydraulics machines.
C2 26.6	Compare the results of analytical models introduced in lecture to the actual behavior of real fluid flows and draw correct and sustainable conclusions.

Course Name: Fluid Mechanics lab (C2 26) for academic year 2017-18 (II-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 26.1	2	3	3	3	2	3	3	2	2	2	1	2	3	3
C2 26.2	3	3	3	3	3	3	3	1	2	1	1	1	3	3
C2 26.3	3	3	3	3	3	3	3	2	2	2	1	2	3	3
C2 26.4	3	3	3	3	3	3	3	1	2	1	1	1	3	3
C2 26.5	3	2	3	3	3	2	3	2	2	2	1	2	3	3
C2 26.6	3	2	3	3	3	2	3	2	2	2	1	2	3	3
Average	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**2**	**2**	**2**	**1**	**2**	**3**	**3**

Course Name: Surveying-II Lab (C2 27) for academic year 2017-18 (II-II) (R16)

Items	Course Outcomes
C2 27.1	Determine of area using total station.
C2 27.2	Transverse using Total station and contouring using total station and determination of remote height using total station.
C2 27.3	Stake out using total station.
C2 27.4	Distance, gradient, differential height between two inaccessible points using total Station.
C2 27.5	Resection using total station.
C2 27.6	Finding position of stations using G.P.S

Course Name: Surveying-II Lab (C2 27) for academic year 2017-18 (II-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 27.1	3	3	2	3	2	2	3	2	3	2	3	2	3	3
C2 27.2	3	3	3	3	3	1	3	1	3	3	3	3	3	2
C2 27.3	3	3	3	3	3	2	3	2	3	3	3	3	2	2
C2 27.4	3	3	3	3	3	1	3	1	3	3	3	3	3	3
C2 27.5	3	2	3	2	3	2	2	2	2	3	2	3	3	2
C2 27.6	3	2	3	2	3	2	2	2	2	3	3	3	3	2
Average	**3**	**3**	**3**	**3**	**3**	**2**	**3**	**2**	**3**	**3**	**3**	**3**	**3**	**2**

Course Name: Engineering geology lab (C2 28) for academic year 2017-18 (II-II) (R16)

Items	Course Outcomes
C2 28.1	Study of physical properties and identical of minerals referred under theory.
C2 28.2	Megascopic and microscopic description of rocks referred under theory.
C2 28.3	Megascopic and Microscopic identification of rocks and minerals.
C2 28.4	Interpretation and drawing of sections for geological maps showing tiled beds, faults, uniformities etc.
C2 28.5	Simple Structural Geological problems.
C2 28.6	To understand the Electrical resistivity meter.

Course Name: Engineering geology lab (C2 28) for academic year 2017-18 (II-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 28.1	3	2	2	2	1	2	2	2	2	2	2	2	2	2
C2 28.2	3	2	1	3	2	1	2	1	2	1	2	1	1	2
C2 28.3	3	2	2	3	1	2	2	2	2	2	2	2	2	2
C2 28.4	2	2	1	3	1	1	2	1	2	1	2	1	2	2
C2 28.5	3	2	2	3	1	2	2	2	2	2	2	2	2	2
C2 28.6	3	2	2	3	2	2	2	2	2	2	2	2	2	2
Average	**3**	**2**	**2**	**3**	**1**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**

Course Name: Environmental Science and Technology (C2 29) for academic year 2017-18 (II-II) (R16)

Items	Course Outcomes
C2 29.1	Understanding the importance of ecological balance for sustainable development.
C2 29.2	Understanding the impacts of developmental activities and mitigation measures
C2 29.3	Understanding the environmental policies and regulations
C2 29.4	The Engineering graduate will understand /evaluate / develop technologies on the basis of ecological principles and environmental regulations which in turn helps in sustainable development
C2 29.5	Understand the environmental pollution and control technologies.
C2 29.6	To learn the sustainable future

Course Name: Environmental Science and Technology (C2 29) for academic year 2017-18 (II-II) (R16)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO01	PSO02
C2 29.1	2	2	2	3	2	3	3	2	3	2	1	2	3	3
C2 29.2	2	1	2	3	1	3	3	3	3	1	1	3	3	3
C2 29.3	2	2	2	3	2	3	3	3	3	2	1	3	3	3
C2 29.4	2	1	2	3	1	3	3	3	3	1	1	3	3	3
C2 29.5	2	2	2	2	2	3	2	3	3	2	1	3	3	3
C2 29.6	2	2	2	2	2	3	2	3	3	2	1	3	3	3
Average	**2**	**2**	**2**	**3**	**2**	**3**	**3**	**3**	**3**	**2**	**1**	**3**	**3**	**3**