

COURSE OUTCOMES

Course Name: KCE-601: Design of Structure-II

Year of study: 2019-20

| On completion of this course, the students will be able to | |
|--|--|
| KCE 601.1 | design various kind of beams by limit state method. |
| KCE 601.2 | design different kinds of beam due to shear. |
| KCE 601.3 | design one and two way slabs using limit state method. |
| KCE 601.4 | design the various types of columns. |
| KCE 601.5 | design various types of foundations. |
| KCE 601.6 | analyze the structural behavior of cantilever retaining wall to design it. |

Mapping of Course Outcome and Program Outcome

| CO | PO | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 | PO 12 |
|------------------|----|-------------|-------------|-------------|-------------|----------|-------------|----------|-------------|----------|----------|----------|-------------|
| KCE 601.1 | | 3 | 3 | - | - | - | 3 | - | 2 | - | - | - | 3 |
| KCE 601.2 | | 3 | 3 | - | - | - | 3 | - | 2 | - | - | - | 3 |
| KCE 601.3 | | 3 | 3 | - | - | - | 3 | - | 2 | - | - | - | 3 |
| KCE 601.4 | | 3 | 3 | - | - | - | 3 | - | 2 | - | - | - | 3 |
| KCE 601.5 | | 3 | 3 | 1 | 1 | - | 3 | - | 2 | - | - | - | 3 |
| KCE 601.6 | | 2 | 2 | - | - | - | 2 | - | 2 | - | - | - | 2 |
| Average | | 2.83 | 2.83 | 1.00 | 1.00 | - | 2.83 | - | 2.00 | - | - | - | 2.83 |

Mapping of Course Outcome and Program Specific Outcome

| CO | PSO | PSO 1 | PSO 2 |
|------------------|-----|-------------|-------------|
| KCE 601.1 | | 2 | 2 |
| KCE 601.2 | | 2 | 2 |
| KCE 601.3 | | 3 | 3 |
| KCE 601.4 | | 3 | 3 |
| KCE 601.5 | | 3 | 3 |
| KCE 601.6 | | 3 | 3 |
| Average | | 2.67 | 2.67 |

COURSE OUTCOMES

Course Name: KCE-602: Environmental Engineering

Year of study: 2019-20

| On completion of this course, the students will be able to | |
|--|---|
| KCE 602.1 | identify water demands, methods of population forecasting and factors affecting consumption of water. |
| KCE 602.2 | analyze water storage and distribution systems. |
| KCE 602.3 | Classify different water and wastewater quality parameters. |
| KCE 602.4 | formulate a primary design of a water treatment plant. |
| KCE 602.5 | design filtration and disinfection units. |
| KCE 602.6 | design waste water treatment units. |

| CO | PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|------------------|----|-------------|-------------|-------------|-----|-----|-------------|-------------|-------------|-----|------|------|-------------|
| KCE 602.1 | | 2 | 2 | - | - | - | 3 | 3 | 1 | - | - | - | 2 |
| KCE 602.2 | | 3 | 3 | - | - | - | 3 | 3 | 1 | - | - | - | 2 |
| KCE 602.3 | | 2 | 2 | - | - | - | 3 | 3 | 1 | - | - | - | 2 |
| KCE 602.4 | | 3 | 3 | 1 | - | - | 2 | 3 | 1 | - | - | - | 2 |
| KCE 602.5 | | 3 | 3 | 1 | - | - | 3 | 3 | 1 | - | - | - | 2 |
| KCE 602.6 | | 3 | 3 | 1 | - | - | 3 | 3 | 1 | - | - | - | 1 |
| Average | | 2.67 | 2.67 | 1.00 | - | - | 2.83 | 3.00 | 1.00 | - | - | - | 1.83 |

Mapping of Course Outcome and Program Outcome

Course Outcome and Program Specific Outcome

| CO | PSO | PSO 1 | PSO 2 |
|------------------|-----|-------------|-------------|
| KCE 602.1 | | 2 | 2 |
| KCE 602.2 | | 2 | 2 |
| KCE 602.3 | | 3 | 3 |
| KCE 602.4 | | 3 | 3 |
| KCE 602.5 | | 3 | 3 |
| KCE 602.6 | | 3 | 3 |
| Average | | 2.67 | 2.67 |

COURSE OUTCOMES

Course Name: KCE-603: Transportation Engineering

Year of study: 2019-20

| On completion of this course, the students will be able to | |
|---|---|
| KCE 603.1 | understand role of transportation and history of road development |
| KCE 603.2 | design geometric elements of highways. |
| KCE 603.3 | understand applicability aspects of traffic engineering |
| KCE 603.4 | design rotary intersections, grade separated intersections and signals. |
| KCE 603.5 | learn about various highway materials for road construction. |
| KCE 603.6 | apply various road constructions methods. |

Mapping of Course Outcome and Program Outcome

| CO | PO | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 | PO 12 |
|------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|
| KCE 603.1 | | 2 | 2 | - | - | - | 2 | 2 | - | - | - | - | 1 |
| KCE 603.2 | | 3 | 3 | 1 | 1 | - | 2 | - | 1 | - | - | - | 2 |
| KCE 603.3 | | 3 | 3 | 1 | - | - | 2 | - | 1 | - | - | - | 2 |
| KCE 603.4 | | 3 | 3 | 1 | - | - | 2 | - | 1 | - | - | - | 2 |
| KCE 603.5 | | 3 | 3 | - | - | - | 2 | - | - | - | - | - | 2 |
| KCE 603.6 | | 2 | 2 | - | - | - | 2 | 1 | - | - | - | - | 2 |
| Average | | 2.67 | 2.67 | 1.00 | 1.00 | - | 2.00 | 1.50 | 1.00 | - | - | - | 1.83 |

Mapping of Course Outcome and Program Specific Outcome

| CO | PSO | PSO 1 | PSO 2 |
|------------------|------------|--------------|--------------|
| KCE 603.1 | | 2 | 2 |
| KCE 603.2 | | 2 | 2 |
| KCE 603.3 | | 3 | 3 |
| KCE 603.4 | | 3 | 3 |
| KCE 603.5 | | 3 | 3 |
| KCE 603.6 | | 3 | 3 |
| Average | | 2.67 | 2.67 |

COURSE OUTCOMES

Course Name: KCE-061: Transportation Engineering

Year of study: 2019-20

| On completion of this course, the students will be able to | |
|---|--|
| KCE 061.1 | Understand the practical aspects of modern methods of soil investigations. |
| KCE 061.2 | Understand to analyse bearing capacity and settlement analysis of shallow foundations. |
| KCE 061.3 | Compute load carrying capacity and settlement of single pile or pile group. |
| KCE 061.4 | Analyse and design well foundations. |
| KCE 061.5 | Analyse and design retaining walls. |
| KCE 061.6 | Understand to analyse reinfoKCEd earth and soil-foundation interaction. |

Mapping of Course Outcome and Program Outcome

| CO | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 | PO 12 |
|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|
| KCE 061.1 | 2 | 2 | - | - | - | 2 | - | - | - | - | - | 2 |
| KCE 061.2 | 3 | 3 | 1 | 1 | - | 2 | - | - | - | - | - | 2 |
| KCE 061.3 | 3 | 3 | 1 | 1 | - | 2 | - | - | - | - | - | 3 |
| KCE 061.4 | 3 | 3 | 1 | 1 | - | 2 | - | - | - | - | - | 2 |
| KCE 061.5 | 3 | 3 | - | - | - | 2 | - | - | - | -- | - | 2 |
| KCE 061.6 | 3 | 2 | - | - | - | 2 | - | - | - | - | - | 2 |
| Average | 2.83 | 2.67 | 1.00 | 1.00 | - | 2.00 | - | - | - | - | - | 2.17 |

Mapping of Course Outcome and Program Specific Outcome

| CO | PSO 1 | PSO 2 |
|------------------|--------------|--------------|
| KCE 061.1 | 2 | 2 |
| KCE 061.2 | 3 | 3 |
| KCE 061.3 | 3 | 3 |
| KCE 061.4 | 3 | 3 |
| KCE 061.5 | 3 | 3 |
| KCE 061.6 | 2 | 2 |
| Average | 2.67 | 2.67 |

COURSE OUTCOMES

Course Name: KCE-651: CAD Lab-2

Year of study: 2019-20

| On completion of this Lab, the students will be able to | |
|--|---|
| KCE 651.1 | On completion of this Lab, the students will be able to map topographical features in digital form by QGIS |
| KCE 651.2 | On completion of this Lab, the students will be able to analyse special data using multiple criteria by QGIS. |
| KCE 651.3 | On completion of this Lab, the students will be able to generate output maps & relevant reports by QGIS. |

Mapping of Course Outcome and Program Outcome

| CO | PO | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 | PO 12 |
|------------------|----|-------------|-------------|------|-------------|-------------|-------------|------|-------------|------|-------|-------|-------------|
| KCE 651.1 | | 3 | 3 | - | 2 | 3 | 2 | - | 1 | - | - | - | 2 |
| KCE 651.2 | | 3 | 3 | - | 2 | 3 | 3 | - | 1 | - | - | - | 3 |
| KCE 651.3 | | 3 | 3 | - | 2 | 3 | 3 | - | 1 | - | - | - | 3 |
| Average | | 3.00 | 3.00 | - | 2.00 | 3.00 | 2.67 | - | 1.00 | - | - | - | 2.67 |

Mapping of Course Outcome and Program Specific Outcome

| CO | PSO | PSO1 | PSO2 |
|------------------|-----|----------|-------------|
| KCE 651.1 | | 3 | 1 |
| KCE 651.2 | | 3 | 2 |
| KCE 651.3 | | 3 | 2 |
| Average | | 3 | 1.67 |

COURSE OUTCOMES

Course Name: KCE-652: Environmental Engineering Lab

Year of study: 2019-20

| On completion of this Lab, the students will be able to | |
|---|--|
| KCE 652.1 | Determine turbidity and conductivity & pH, alkalinity and acidity of a waste water sample. |
| KCE 652.2 | Determine hardness and chlorides & residual chlorine of a waste water sample |
| KCE 652.3 | Determine BOD and COD & total, suspended and dissolved particles of a waste water sample |

Mapping of Course Outcome and Program Outcome

| PO | PO 1 | PO 2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO 8 | PO9 | PO1 0 | PO11 | PO1 2 |
|------------------|-------------|-------------|-------------|-------------|----------|-------------|----------|----------|-------------|-------------|----------|-------------|
| CO | | | | | | | | | | | | |
| KCE 652.1 | 3 | 3 | 1 | 1 | - | 3 | - | - | 3 | 2 | - | 3 |
| KCE 652.2 | 3 | 2 | 2 | 1 | - | 3 | - | - | 3 | 2 | - | 3 |
| KCE 652.3 | 3 | 3 | 1 | 1 | - | 3 | - | - | 3 | 2 | - | 3 |
| Average | 3.00 | 2.67 | 1.33 | 1.00 | - | 3.00 | - | - | 3.00 | 3.00 | - | 3.00 |

Mapping of Course Outcome and Program Specific Outcome

| PSO | PSO 1 | PSO 2 |
|------------------|----------|----------|
| CO | | |
| KCE 652.1 | 3 | 1 |
| KCE 652.2 | 3 | 1 |
| KCE 652.3 | 3 | 1 |
| Average | 3 | 1 |

COURSE OUTCOMES

Course Name: KCE-653: Transportation Engineering Lab

Year of study: 2019-20

| On completion of this Lab, the students will be able to | | | | | | | | | | | | | |
|--|--|-------------|----------|--------------|----------|-------------|--------------|-------------|-------------|--------------|----------|-------------|----------------------------|
| KCE 653.1 | perform the tests of crushing value & impact value of coarse-aggregate.. | | | | | | | | | | | | |
| KCE 653.2 | perform the tests of Los Angeles Abrasion value of coarse aggregate & penetration value of bitumen. | | | | | | | | | | | | |
| KCE 653.3 | perform the tests of determination of softening point of bituminous material & flash fire point of bituminous material | | | | | | | | | | | | |
| CO | PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
| KCE 653.1 | 3 | 2 | - | 2 | - | 3 | - | 2 | 2 | - | - | 2 | |
| KCE 653.2 | 3 | 2 | - | 2 | - | 2 | - | 2 | 2 | - | - | 2 | |
| KCE 653.3 | 3 | 1 | - | 2 | - | 3 | - | 1 | 2 | - | - | 2 | |
| Average | 3 | 1.67 | - | 2.00 | - | 2.67 | - | 1.67 | 2.00 | - | - | 2.00 | |
| Mapping of Course Program Outcome | CO | | | PSO 0 | | | PSO 1 | | | PSO 2 | | | Outcome and |
| | KCE 653.1 | | | | | | | 3 | | | | | |
| | KCE 653.2 | | | | | | | 2 | | | | | |
| | KCE 653.3 | | | | | | | 3 | | | | | |
| Mapping of Course Program Specific | Average | | | | | | | 2.67 | | | | | 2 |
| | | | | | | | | | | | | | Outcome and Outcome |

COURSE OUTCOMES

Course Name: KCE-654: Structural Detailing Lab

Year of study: 2019-20

| On completion of this Lab, the students will be able to | | | | | | | | | | | | | |
|--|---|-------------|-------------|------------|-------------|-------------|-------------|------------|-------------|------------|-------------|-------------|-------------|
| KCE 654.1 | learn preparation of working drawing for simply supported, continuous and cantilever RC beams & T- beams. | | | | | | | | | | | | |
| KCE 654.2 | learn preparation of working drawing for simply supported one way and two-way slabs & reinfoKCEd columns. | | | | | | | | | | | | |
| KCE 654.3 | learn preparation of working drawing for isolated footings for RC Columns & combined footings. | | | | | | | | | | | | |
| CO | PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
| KCE 654.1 | | 3 | 3 | - | 2 | 3 | 2 | - | 1 | - | - | - | 2 |
| KCE 654.2 | | 3 | 3 | - | 2 | 3 | 3 | - | 1 | - | - | - | 3 |
| KCE 654.3 | | 3 | 3 | - | 2 | 3 | 3 | - | 1 | - | - | - | 3 |
| Average | | 3.00 | 3.00 | - | 2.00 | 3.00 | 2.67 | - | 1.00 | - | - | - | 2.67 |

Mapping of Course Outcome and Program Outcome

Mapping of Course Outcome and Program Specific Outcome

| CO | PSO | PSO 1 | PSO 2 |
|------------------|------------|--------------|--------------|
| KCE 654.1 | | 2 | 2 |
| KCE 654.2 | | 2 | 2 |
| KCE 654.3 | | 2 | 2 |
| Average | | 2.00 | 2.00 |

COURSE OUTCOMES

Course Name: RUC 601: Cyber Security

Year of study: 2019-20

| On completion of this course, the students will be able to | |
|---|--|
| RUC 601.1 | Explain the core of Information System (IS), principles and its security |
| RUC 601.2 | Analyze system and applications for Cyber Security threats, vulnerabilities and also different classes of attack and their counter measures. |
| RUC 601.3 | Identify the key components of Physical Security and Network Architecture for Secure Information System. |
| RUC 601.4 | Understand the development of Policies, Procedures, and Guidelines for implementing Security. |
| RUC 601.5 | Illustrate Current Trends in information Security in areas of Cloud Computing, Supply Chain Management and Outsourcing |
| RUC 601.6 | Learn about Cyber Security Policies, Information Security Standards -ISO, IT Act, Copy rights, Cyber Laws to make our system secure. |

Mapping of Course Outcome and Program Outcome

| CO | PO | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | PO 11 | PO 12 |
|------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|
| RUC 601.1 | - | - | 2 | - | - | - | - | - | 3 | - | - | - | 2 |
| RUC 601.2 | - | - | 2 | - | - | - | - | - | - | - | - | - | 2 |
| RUC 601.3 | - | - | 3 | - | - | - | - | - | - | - | - | - | 2 |
| RUC 601.4 | - | - | 2 | - | - | 2 | - | - | 3 | - | - | - | - |
| RUC 601.5 | - | - | 2 | - | - | 3 | - | - | 3 | - | - | - | - |
| RUC 601.6 | - | - | 3 | - | - | 3 | - | - | 3 | - | - | - | - |
| Average | - | - | 2.33 | - | - | 2.67 | - | - | 3.00 | - | - | - | 2.00 |

Mapping of Course Outcome and Program Specific Outcome

| CO | PSO | PSO 1 | PSO 2 |
|------------------|------------|--------------|--------------|
| RUC 601.1 | - | - | - |
| RUC 601.2 | - | - | - |
| RUC 601.3 | - | - | - |
| RUC 601.4 | - | - | - |
| RUC 601.5 | - | - | - |
| RUC 601.6 | - | - | - |
| Average | - | - | - |