|                | Course Category:  |  |   | Program Core   |  |   |   |  |   |   | Credits:                        |           |             | 3                 |  |  |  |  |
|----------------|---|--|---|--|--|---|---|--|---|---|---------------------------------|-----------|-------------|-------------------|--|--|--|--|
| Course Type:   |   |  |   | Theory   |  |   |   |  |   | Le  | Lecture-Tutorial-<br>Practical: |           | 3-0-0       |                   |  |  |  |  |
|                |   |  |   |  |  |   |   |  |   |   | Continu                         |           | -           | 0                 |  |  |  |  |
| Prerequisites: |   |  |   | 19CE3303 - Surveying   |  |   |   |  |   |   | Evaluation:                     |           |             | 30                |  |  |  |  |
|                |   |  |   | 19CE3651 - Architectural planning &  |  |   |   |  |   |   | Semester End                    |           |             | 70                |  |  |  |  |
|                |   |  |   | CAD Lab  |  |   |   |  |   |   | Evaluation:<br>Total Marks:     |           |             |                   |  |  |  |  |
|                |   |  |   |  |  |   |   |  |   |   | I otal Marks:                   |           |             | 00                |  |  |  |  |
| Course         |   |  | .1.4  | . <b>f</b> 41  |  | 41  | 1   | 11 1 1.  | 1. 4                                    |   |                                 |           |             |                   |  |  |  |  |
|                |   | ful composite  |   |  |  |   |   |  |   | ngineeri                                  | na annra                        | vimate r  | nethods     |                   |  |  |  |  |
| CO1            |   | Understand drawings, principles of different works in civil engineering, approximate methods of estimating and standard specifications for different items of works in buildings |   |  |  |   |   |  |   |   |                                 |           | K2          |                   |  |  |  |  |
| CO2            | Prep  | Prepare detailed estimates for buildings using a long wall short wall method and centre line   |   |  |  |   |   |  |   |   |                                 |           |             | K2                |  |  |  |  |
| 002            | meth  |  |   |  |  | 1 .   | 0 1:00  |  | 1 .                                     | 1   |                                 | 1         |             |                   |  |  |  |  |
| CO3            |   | elop the einforce  |   |  |  |   | for diff  | erent w  | orks in                                 | n civil en                                | gineering                       | g and und | lerstand    | Ke                |  |  |  |  |
| <b>CO4</b>     |   | erstand  |   |  |  |   | valuati   | on   |   |   |                                 |           |             | K2                |  |  |  |  |
|                |   |  |   |  |  |   |   |  | ports of                                | n estimat                                 | es for the                      | e constru | ction of    |                   |  |  |  |  |
| CO5            |   | lings and  | l roads.  |  |  |   | -   |  |   |   |                                 |           |             | K3                |  |  |  |  |
|                |   | 1 1  |   |  |  |   |   |  |   |   | ogram C                         |           |             |                   |  |  |  |  |
| CO1            | PO1 3   | PO2  | <b>PO3</b>  | PO4  | PO5  | PO6   | PO7   | PO8  | PO9                                     | PO10                                      | PO11 2                          | PO12      | PSO1 3      | <b>PSO2</b>       |  |  |  |  |
| CO1            | 3   |  | 1   |  |  |   |   | 1  | 2                                       | 1   | 2                               | 1         | 3           | 2                 |  |  |  |  |
| CO2            | 3   |  | 1   |  |  |   |   | 1  | 2                                       |   |                                 |           | 3           | 2                 |  |  |  |  |
| CO4            | 3   |  | 1   |  |  |   |   |  |   |   |                                 |           | 3           | 2                 |  |  |  |  |
| CO5            | 3   |  | 1   |  |  |   |   |  |   |   |                                 |           | 3           | 2                 |  |  |  |  |
| Avg.           | 3   |  | 1   |  |  |   |   | 1  | 2                                       | 1   | 2                               | 1         | 3           | 2                 |  |  |  |  |
|                |   | 1- Lo  | W   |  |  |   | 2-Me  | dium   |   |   |                                 | 3-High    |             |                   |  |  |  |  |
|                |   |  |   |  |  | Cou   | rse (   | Cont   | ent                                     |   |                                 |           |             |                   |  |  |  |  |
|                | I   | NTROI  | DUCT  | 'ION '   | <b>FO ES</b>   | TIMA  | TION  | -  |   |   |                                 |           |             |                   |  |  |  |  |
|                |   |  |   |  |  |   |   |  | of units                                | s for var                                 | ious iter                       | ns of w   | orks -      |                   |  |  |  |  |
| UNIT           | 1 W   | vorking  | General items of work in building – Principle of units for various items of works -<br>working out quantities for detailed and abstract estimates – Approximate methods   |  |  |   |   |  |   |   |                                 |           |             |                   |  |  |  |  |
| UNIT-          | I   0   | of estimating.   |   |  |  |   |   |  |   |   |                                 |           |             | COI               |  |  |  |  |
| UNIT-          |   | f estima   |   |  |  | STANDARD SPECIFICATIONS                                       |   |  |   |   |                                 |           |             |                   |  |  |  |  |
| UNIT-          |   | TAND   | ating.<br>ARD S   |  |  |   |   |  |   |   |                                 |           |             |                   |  |  |  |  |
| 0111-          | S   | TAND.<br>tandard   | ating.<br>ARD s<br>specif   | fication   | ns for o   | differe   | nt item   |  | uilding                                 | constru                                   | ction.                          |           |             |                   |  |  |  |  |
|                |   | TAND.<br>tandard<br>ONGV   | ARD S<br>specif   | fication   | ns for o   | differe<br>WALI   | nt item   | HOD  | 0                                       |   |                                 |           |             |                   |  |  |  |  |
| UNIT-          | S<br>L<br>2   | TAND<br>tandard<br>ONGV<br>Detailed  | ARD S<br>Specif<br>VALL<br>Estim  | fication<br>& SH<br>ates of  | ns for o<br>ORT<br>Build   | differe<br>WALI<br>ings us                                    | nt item   | HOD  | 0                                       |   | ction.<br>l method              | 1.        |             | CO2               |  |  |  |  |
|                | S<br>L<br>2<br>C  | TAND<br>tandard<br>ONGV<br>Detailed<br>CENTR   | ating.<br>ARD S<br>specif<br>VALL<br>Estim<br>E LIN   | fication<br>& SH<br>ates of<br>NE ME   | ns for<br>ORT<br>Build<br>THO  | differe<br>WALI<br>ings us<br>D                               | nt item<br>2 <b>MET</b><br>sing Lo                        | <b>HOD</b><br>ong wa                                   | .11 & sł                                | nort wall                                 |                                 | 1.        |             | CO1               |  |  |  |  |
|                | 2 C   | TAND.<br>tandard<br>ONGV<br>Detailed<br>CENTR<br>Detailed  | ating.<br>ARD S<br>specif<br>VALL<br>Estim<br>E LIN<br>E Stim   | fication<br>& SH<br>ates of<br>NE ME<br>nates o  | ns for o<br>ORT<br>Build<br>THO<br>f Build   | differe<br>WALI<br>ings us<br>D                               | nt item<br>2 <b>MET</b><br>sing Lo                        | <b>HOD</b><br>ong wa                                   | .11 & sł                                | nort wall                                 |                                 | 1.        |             | CO2               |  |  |  |  |
|                | S<br>2 C<br>1<br>3<br>5<br>3<br>5   | TAND.<br>tandard<br>ONGV<br>Detailed<br>CENTR<br>Detailed<br>TEEL  | ating.<br>ARD S<br>specify<br>VALL<br>Estim<br>E LIN<br>ESTIP   | fication<br>& SH<br>ates of<br>NE ME<br>nates o<br>MATI  | ns for o<br>ORTV<br>Build<br>THO<br>f Build<br>ON                                    | differe<br>WALI<br>ings us<br>D<br>lings u                    | nt item<br><b>MET</b><br>sing Lo                          | <b>HOD</b><br>ong wa<br>entre l                        | ll & sł                                 | nort wall                                 |                                 | 1.        |             | CO2               |  |  |  |  |
| UNIT           | S<br>2 C<br>2 C<br>1<br>5<br>8<br>8<br>8  | TAND<br>tandard<br>ONGV<br>Detailed<br>CENTR<br>Detailed<br>TEEL<br>Ceinforc   | ating.<br>ARD S<br>specific<br>VALL<br>Estim<br>Estim<br>ESTIM<br>ESTIM   | fication<br>& SH<br>ates of<br>NE ME<br>nates o<br>MATI<br>bar be  | ns for o<br>ORTV<br>Build<br>THO<br>f Build<br>ON                                    | differe<br>WALI<br>ings us<br>D<br>lings u                    | nt item<br><b>MET</b><br>sing Lo                          | <b>HOD</b><br>ong wa<br>entre l                        | ll & sł                                 | nort wall                                 |                                 | 1.        |             |                   |  |  |  |  |
|                | S<br>2<br>2<br>3<br>3<br>8<br>3<br>3<br>8<br>3<br>8<br>3<br>8<br>3<br>8<br>3<br>8<br>8<br>8<br>8<br>8                     | TAND<br>tandard<br>ONGV<br>Detailed<br>CENTR<br>Detailed<br>TEEL<br>Reinforc<br>RATE A   | ating.<br>ARD S<br>specify<br>VALL<br>Estim<br>ESTIN<br>ement<br>NAL  | fication<br>& SH<br>ates of<br>NE ME<br>nates o<br>MATI<br>bar be<br>YSIS  | ns for o<br>ORT<br>Build<br>THO<br>f Build<br>ON<br>nding                            | differe<br>WALI<br>ings us<br>D<br>lings u<br>and ba          | nt item<br>2 <b>MET</b><br>sing Lo<br>using C<br>ar requi | HOD<br>ong wa<br>entre l                               | ll & sh<br>ine me<br>t scheo            | nort wall<br>ethod.<br>dules.             | l method                        |           |             |                   |  |  |  |  |
| UNIT           | S<br>2<br>2<br>3<br>3<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8<br>8                     | TAND<br>tandard<br>ONGV<br>Detailed<br>CENTR<br>Detailed<br>TEEL<br>Reinforc<br>RATE A   | ating.<br>ARD S<br>specific<br>VALL<br>Estim<br>ESTIN<br>ESTIN<br>ement<br>NAL<br>alysis  | fication<br>& SH<br>ates of<br>NE ME<br>nates o<br>MATI<br>bar be<br>YSIS<br>– Wo                                    | ns for o<br>ORT<br>Build<br>THO<br>f Build<br>ON<br>nding                            | differe<br>WALI<br>ings us<br>D<br>lings u<br>and ba          | nt item<br>2 <b>MET</b><br>sing Lo<br>using C<br>ar requi | HOD<br>ong wa<br>entre l                               | ll & sh<br>ine me<br>t scheo            | nort wall<br>ethod.<br>dules.             |                                 |           |             |                   |  |  |  |  |
| UNIT           | S<br>2<br>2<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3                          | TAND<br>tandard<br>ONGV<br>Detailed<br>CENTR<br>Detailed<br>TEEL<br>teinforc<br>RATE A<br>Rate An  | ARD S<br>Specific<br>VALL<br>Estim<br>ESTIM<br>ESTIM<br>ESTIM<br>ESTIM<br>ESTIM<br>SNAL<br>alysis<br>nt char  | fication<br>& SH<br>ates of<br>NE ME<br>nates o<br>WATI<br>bar be<br>YSIS<br>– Wo<br>rges.                           | ns for o<br>ORT<br>Build<br>THO<br>f Build<br>ON<br>nding                            | differe<br>WALI<br>ings us<br>D<br>lings u<br>and ba          | nt item<br>2 <b>MET</b><br>sing Lo<br>using C<br>ar requi | HOD<br>ong wa<br>entre l                               | ll & sh<br>ine me<br>t scheo            | nort wall<br>ethod.<br>dules.             | l method                        |           |             |                   |  |  |  |  |
| UNIT-          | S<br>2<br>2<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3<br>3                          | TAND<br>tandard<br>ONGV<br>Detailed<br>CENTR<br>Detailed<br>TEEL<br>Ceinforc<br>RATE A<br>Cate An<br>ontinger  | ARD S<br>specific<br>VALL<br>Estim<br>ESTIM<br>ESTIM<br>ESTIM<br>ESTIM<br>MAL<br>alysis<br>nt chan  | fication<br>& SH<br>ates of<br>NE ME<br>nates o<br>MATI<br>bar be<br>YSIS<br>– Wo<br>rges.                           | ns for o<br>ORTY<br>Build<br>THO<br>f Build<br>ON<br>nding<br>orking                 | differe<br>WALI<br>ings us<br>D<br>lings u<br>and ba<br>out d | nt item<br>MET<br>sing Lo<br>sing C<br>ar requi           | HOD<br>ong wa<br>entre 1<br>iremen<br>r vario          | Il & sh<br>ine me<br>t scheo<br>ous ite | nort wall<br>ethod.<br>dules.<br>ems of s | l method                        | ver head  | 1 and<br>t. | CO3               |  |  |  |  |
| UNIT           | S<br>2<br>2<br>3<br>3<br>8<br>3<br>8<br>7<br>3<br>8<br>7<br>8<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7           | TAND<br>tandard<br>ONGV<br>Detailed<br>CENTR<br>Detailed<br>TEEL<br>Ceinforc<br>RATE A<br>Cate An<br>ontinger  | ating.<br>ARD S<br>specify<br>VALL<br>Estim<br>E LIN<br>ESTIME<br>ement<br>NAL<br>alysis<br>nt chan<br>ACTS<br>s - Ty   | fication<br>& SH<br>ates of<br>NE ME<br>nates o<br>WATI<br>bar be<br>YSIS<br>– Wo<br>rges.<br>S<br>pes of            | ns for o<br>ORTY<br>Build<br>THO<br>f Build<br>ON<br>nding<br>orking                 | differe<br>WALI<br>ings us<br>D<br>lings u<br>and ba<br>out d | nt item<br>MET<br>sing Lo<br>sing C<br>ar requi           | HOD<br>ong wa<br>entre 1<br>iremen<br>r vario          | Il & sh<br>ine me<br>t scheo<br>ous ite | nort wall<br>ethod.<br>dules.<br>ems of s | l method                        | ver head  | 1 and<br>t. | CO3               |  |  |  |  |
| UNIT-          | S<br>2<br>2<br>3<br>8<br>3<br>8<br>7<br>8<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7<br>8<br>7           | TAND<br>tandard<br>ONGV<br>Detailed<br>CENTR<br>Detailed<br>TEEL<br>Ceinforc<br>RATE A<br>Cate An<br>ontinger<br>CONTR<br>Contract   | ARD S<br>Specific Specific Specific Specific Specific Specific Specific Specific Specific Specific Spectra Spectr | fication<br>& SH<br>ates of<br>NE ME<br>nates o<br>WATI<br>bar be<br>YSIS<br>– Wo<br>rges.<br>S<br>pes of            | ns for of ORTY<br>ORTY<br>Build<br>THO<br>f Build<br>ON<br>nding<br>orking           | differe<br>WALI<br>ings us<br>D<br>lings u<br>and ba<br>out d | nt item<br>MET<br>sing Lo<br>sing C<br>ar requi           | HOD<br>ong wa<br>entre 1<br>iremen<br>r vario          | Il & sh<br>ine me<br>t scheo<br>ous ite | nort wall<br>ethod.<br>dules.<br>ems of s | l method                        | ver head  | 1 and<br>t. | CO2<br>CO3<br>CO4 |  |  |  |  |
| UNIT-          | S<br>2<br>2<br>3<br>3<br>4<br>4<br>4<br>4<br>5<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7 | TAND<br>tandard<br>ONGV<br>Detailed<br>CENTR<br>Detailed<br>TEEL<br>Ceinforc<br>RATE A<br>Cate An<br>ontinger<br>CONTR<br>CONTR  | ARD S<br>Specific Specific Specie | fication<br>& SH<br>ates of<br>NE ME<br>nates o<br>WATH<br>bar be<br>YSIS<br>– Wo<br>rges.<br>S<br>pes of<br>uilding | ns for of ORTY<br>ORTY<br>Build<br>THO<br>f Build<br>ON<br>nding<br>orking<br>contra | differe<br>WALI<br>ings us<br>D<br>and ba<br>out d<br>cts – C | nt item<br><b>MET</b><br>sing Lo<br>using C<br>ur requi   | HOD<br>ong wa<br>entre 1<br>remen<br>r vario<br>t Docu | Il & sh<br>ine me<br>t schee<br>ous ite | nort wall<br>ethod.<br>dules.<br>ems of s | l method                        | ver head  | 1 and<br>t. | CO3               |  |  |  |  |

## 19CE3701 – ESTIMATION & COSTING

Page **170** of **268** 

| Esti                      | mation of  | f earthwork for roads and canals – Lead and Lift considerations                     |       |  |  |  |  |
|---------------------------|------------|---|-------|--|--|--|--|
| RE                        | PORTS      |   |       |  |  |  |  |
| Rep                       | orts on es | stimates for the construction of buildings and roads                                |       |  |  |  |  |
|                           |            | Learning Resources  |       |  |  |  |  |
|                           | 3.         | B.N.Dutta, Estimating and Costing, 28 <sup>th</sup> edition, UBS Publishers'        |       |  |  |  |  |
| Text Books                |            | Distributors Pvt. Ltd, 2016.  |       |  |  |  |  |
| Text Books                | 4.         | G.S.Birdie, Estimating and Costing, 7 <sup>th</sup> edition, Dhanpat Rai Publishing |       |  |  |  |  |
|                           |            | Company (P) Ltd, 2016.  |       |  |  |  |  |
| Reference                 | 1.         | A.K.Upadhyay, Civil Estimating and Costing, S.K.Kataria & Sons., 20                 | 012.  |  |  |  |  |
| Books                     | 2.         | D.D.Kohli, Estimating and Costing, S.Chand & Company Pvt Ltd, 20                    | 13.   |  |  |  |  |
| e-Resources&              |            |   |       |  |  |  |  |
| other digital<br>material | 1.         | https://www.services.bis.gov.in:8071/php/BIS/PublishStandards/publi                 | shed# |  |  |  |  |
| material                  |            |   |       |  |  |  |  |