

**ANNEXURE M. Sc. (Tech) Applied Geology**

**Equivalence of Syllabus / papers between CBS & CBCS syllabus for desirous students (CBS Pattern students (introduced in the Year 2012-2013) in CBCS Pattern (introduced in the year 2015-16 at M.Sc (Tech) Semester I and II and in the year 2016-17, at M.Sc. (Tech) Semester –III and Semester IV and in the year 2017-18 at M. Sc. (Tech) Semester V and VI**

| If the candidate has failed in any of the papers mentioned below (As described in Point no. 22 'b', 'c', 'd', and 'e') |          |              |  |             |         | Then, the candidate shall appear and clear the paper shown in the respective row as equivalent paper |     |          |       |  |             |         |
|--|----------|--------------|--|-------------|---------|--|-----|----------|-------|--|-------------|---------|
| M.Sc. (Tech) Applied Geology CBS Pattern : Semester -I   |          |              |  |             |         | M.Sc. (Tech) Applied Geology Choice Based Credit System ( CBCS)                                      |     |          |       |  |             |         |
| S. No.   | Code No. | Paper        | Name of Paper  | Total Marks | Credits | Equivalence To   | Sem | Code No. | Paper | Name of Paper  | Total Marks | Credits |
| 01   |          | Paper I      | Mineralogy and Crystallography (3+1)                 | 100         | 4       |  | I   | 1T1      |       | Mineralogy and Crystallography (3+1)                 | 80+ 20      | 4       |
| 02   |          | Paper II     | Igneous Petrology (4)                                | 100         | 4       |  | I   | 1T2      |       | Igneous Petrology (4)                                | 80+20       | 4       |
| 03   |          | Paper III    | Sedimentology (4)                                    | 100         | 4       |  | I   | 1T3      |       | Sedimentology (4)                                    | 80+20       | 4       |
| 04   |          | Paper IV     | Paleontology and Applied Paleobiology (3+1)          | 100         | 4       |  | I   | 1T4      |       | Paleontology and Applied Paleobiology (3+1)          | 80+20       | 4       |
| 05   |          | Practical I  | Mineralogy, Crystallography, and Igneous Petrology   | 80+ 20      | 4       |  | I   | 1P1      |       | Mineralogy, Crystallography, and Igneous Petrology   | 100         | 4       |
| 06   | :        | Practical II | Sedimentology, Paleontology and Applied Paleobiology | 80+20       | 4       |  | I   | 1P2      |       | Sedimentology, Paleontology and Applied Paleobiology | 100         | 4       |
| 07   |          | Seminar-I    |  | 25          | 1       |  | I   | 1S1      |       | Seminar-I  | 25          | 1       |
| M.Sc. (Tech) Applied Geology CBS Pattern : Semester -II  |          |              |  |             |         | M.Sc. (Tech) Applied Geology Choice Based Credit System ( CBCS)                                      |     |          |       |  |             |         |
| S. No.   | Code No. | Paper        | Name of Paper  | Total Marks | Credits | Equivalence To   | Sem | Code No. | Paper | Name of Paper  | Total Marks | Credits |
| 01   |          | Paper I      | Metamorphic Petrology (4)                            | 100         | 4       |  | II  | 2T1      |       | Metamorphic Petrology (4)                            | 80+20       | 4       |

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|---|-----------------|--------------|--|--------------------|----------------|---|------------|-----------------|---|---|--------------------|----------------|
| 02  |                 | Paper II     | Structural Geology, Geodynamics and Tectonics (3+1)                                      | 100                | 4              |   | II         | 2T2             | Structural Geology, Geodynamics and Tectonics (3+1)           | 80+20   | 4                  |                |
| 03  |                 | Paper III    | Stratigraphy and Indian Geology (2+2)  | 100                | 4              |   | II         | 2T3             | Stratigraphy and Indian Geology (2+2)                         | 80+20   | 4                  |                |
| 04  |                 | Paper IV     | Precambrian Geology, Geodesy and Mapping (1+2+1)   | 100                | 4              |   | VI         | 6T4             | Geodesy and Mapping (Semester VI)                             | 80+20   | 4                  |                |
| 05  |                 | Practical I  | Metamorphic Petrology and Structural Geology   | 80+20              | 4              |   | II         | 2P1             | Metamorphic Petrology and Structural Geology                  | 100   | 4                  |                |
| 06  |                 | Practical II | Stratigraphy, Indian Geology, Geodesy, Geological Field Work and Mapping                 | 80+20              | 4              |   | II         | 2P2             | Stratigraphy, Geochemistry, Geological Field Work and Mapping | 100   | 4                  |                |
| 07  |                 | Seminar-II   | -----  | 25                 | 1              |   | II         | 2S1             | Seminar-II  | 25  | 1                  |                |
| <b>M.Sc. (Tech) Applied Geology CBS Pattern : Semester -III</b> |                 |              |  |                    |                | <b>M.Sc. (Tech) Applied Geology Choice Based Credit System (CBCS)</b> |            |                 |   |   |                    |                |
| <b>S. No.</b>   | <b>Code No.</b> | <b>Paper</b> | <b>Name of Paper</b>   | <b>Total Marks</b> | <b>Credits</b> | <b>Equivalence To</b>   | <b>Sem</b> | <b>Code No.</b> | <b>Paper</b>  | <b>Name of Paper</b>  | <b>Total Marks</b> | <b>Credits</b> |
| 01  |                 | Paper I      | Geochemistry (4)   | 100                | 4              |   | II         | 2T4             |   | Geochemistry (Semester II)  | 80+20              | 4              |
| 02  |                 | Paper II     | Instrumentation Techniques, Geostatistics and Computer Application in Geology (1+2+1)    | 100                | 4              |   | III        | 3T1             |   | Instrumentation Techniques, Geostatistics and Computer Application in Geology | 80+20              | 4              |
| 03  |                 | Paper III    | Ore Geology (4)  | 100                | 4              |   | III        | 3T3             |   | Ore Geology (4)   | 80+20              | 4              |
| 04  |                 | Paper IV     | Mining Geology & Valuation of Mineral Property (2+2)                                     | 100                | 4              |   | III        | 3T4             |   | Mining Geology & Valuation of Mineral Property (2+2)                          | 80+20              | 4              |
| 05  |                 | Practical I  | Geochemistry, Instrumentation Techniques, Geostatistics, Computer Application in Geology | 80+20              | 4              |   | III        | 3P1             |   | Instrumentation Techniques, Geostatistics, Computer Application in Geology    | 100                | 4              |
| 06  |                 | Practical II | Ore Geology, Mining Geology and Valuation of Mineral Property                            | 80+20              | 4              |   | III        | 3P2             |   | Ore Geology, Mining Geology and Valuation of Mineral Property                 | 100                | 4              |

| 07   |          | Seminar-III  |   | 25          | 1       |   | III | 3S1      |       | Seminar-III  | 25          | 1       |
|--|----------|--------------|---|-------------|---------|---|-----|----------|-------|--|-------------|---------|
| <b>M.Sc. (Tech) Applied Geology CBS Pattern : Semester -IV</b> |          |              |   |             |         | <b>M.Sc. (Tech) Applied Geology Choice Based Credit System (CBCS)</b> |     |          |       |  |             |         |
| S. No.   | Code No. | Paper        | Name of Paper                                       | Total Marks | Credits | Equivalence To  | Sem | Code No. | Paper | Name of Paper  | Total Marks | Credits |
| 01   |          | Paper I      | Indian Mineral Deposits and Mineral Economics (3+1) | 100         | 4       |   | III | 3T2      |       | Indian Mineral Deposits and Mineral Economics (3+1) (Semester III) | 80+20       | 4       |
| 02   |          | Paper II     | Mineral Exploration (4)                             | 100         | 4       |   | IV  | 4T1      |       | Mineral Exploration (4)  | 80+20       | 4       |
| 03   |          | Paper III    | Elements of Mining and Drilling Techniques (3+1)    | 100         | 4       |   | IV  | 4T2      |       | Elements of Mining and Drilling Techniques (3+1)                   | 80+20       | 4       |
| 04   |          | Paper IV     | Geomorphology, Remote Sensing and GIS (1+2+1)       | 100         | 4       |   | IV  | 4T3      |       | Geomorphology, Remote Sensing and GIS (1+2+1)                      | 80+20       | 4       |
| 05   |          | Practical I  | Mineral Exploration and Mine/ Industrial Training   | 80+20       | 4       |   | IV  | 4P1      |       | Mineral Exploration and Mine/ Industrial Training                  | 100         | 4       |
| 06   |          | Practical II | Geomorphology, Remote Sensing and GIS               | 80+20       | 4       |   | IV  | 4P2      |       | Geomorphology, Remote Sensing and GIS & Fuel Geology               | 100         | 4       |
| 07   |          |              | Seminar IV  | 25          | 1       |   | IV  | 4S1      |       | Seminar-IV   | 25          | 1       |
| <b>M.Sc. (Tech) Applied Geology CBS Pattern : Semester -V</b>  |          |              |   |             |         | <b>M.Sc. (Tech) Applied Geology Choice Based Credit System (CBCS)</b> |     |          |       |  |             |         |
| S. No.   | Code No. | Paper        | Name of Paper                                       | Total Marks | Credits | Equivalence To  | Sem | Code No. | Paper | Name of Paper  | Total Marks | Credits |
| 01   |          | Paper I      | Fuel Geology (Coal, Petroleum and Nuclear) (2+1+1)  | 100         | 4       |   | IV  | 4T4      |       | Fuel Geology (Coal, Petroleum and Nuclear) (2+1+1) (Semester IV)   | 80+20       | 4       |
| 02   |          | Paper II     | Ore Microscopy and Ore Dressing (1+3)               | 100         | 4       |   | V   | 5T1      |       | Ore Microscopy and Ore Dressing (1+3)                              | 80+20       | 4       |
| 03   |          | Paper III    | Hydrogeology and Watershed Management (3+1)         | 100         | 4       |   | V   | 5T2      |       | Hydrogeology and Watershed Management (3+1)                        | 80+20       | 4       |

|  |                 |              |   |                    |                |    |   |            |                 |   |   |                    |                |
|--|-----------------|--------------|---|--------------------|----------------|----|---|------------|-----------------|---|---|--------------------|----------------|
| 04   |                 | Paper IV     | <u>Optional (Any one)</u><br>Exploration Geochemistry (4) | 100                | 4              |    | V   | 5T3(1)     |                 | Exploration Geochemistry (4)  | 80+20                                       | 4                  |                |
| 05   |                 | Paper IV     | Quaternary Geology & Limnogeology (3+1)                   | 100                | 4              |    | V   | 5T3(2)     |                 | Quaternary Geology & Limnogeology (3+1)   | 80+20                                       | 4                  |                |
| 06   |                 | Paper IV     | Marine Geology and Oceanography (3+1)                     | 100                | 4              |    | VI  | 6T3(3)     |                 | Marine Geology and Oceanography (3+1) (Semester VI)   | 80+20                                       | 4                  |                |
| 07   |                 | Paper IV     | Basin Analysis and Sequence Stratigraphy (2+2)            | 100                | 4              |    | VI  | 6T3(2)     |                 | Basin Analysis and Sequence Stratigraphy (2+2) (Semester VI)  | 80+20                                       | 4                  |                |
| 08   |                 | Practical I  | Fuel Geology, Ore Microscopy and Ore Dressing             | 80+20              | 4              |    | V   | 5P1        |                 | Ore Microscopy, Ore Dressing, Hydrogeology & Watershed Management   | 100   | 4                  |                |
| 09   |                 | Practical II | Hydrogeology, Watershed Management and Optional           | 80+20              | 4              |    | V   | 5P2        |                 | Based on paper 5T3 (Core Elective 1 Optional Exploration Geochemistry or Quaternary Geology & Limnogeology) and Environmental Geology | 100   | 4                  |                |
| 10   |                 |              | Seminar V   | 25                 | 1              |    |   | 5S1        |                 | Seminar-V   | 25  | 1                  |                |
| <b>M.Sc. (Tech) Applied Geology CBS Pattern : Semester -VI</b> |                 |              |   |                    |                |    | <b>M.Sc. (Tech) Applied Geology Choice Based Credit System (CBCS)</b> |            |                 |   |   |                    |                |
| <b>S. No.</b>  | <b>Code No.</b> | <b>Paper</b> | <b>Name of Paper</b>                                      | <b>Total Marks</b> | <b>Credits</b> |    | <b>Equivalence To</b>   | <b>Sem</b> | <b>Code No.</b> | <b>Paper</b>  | <b>Name of Paper</b>                        | <b>Total Marks</b> | <b>Credits</b> |
| 01   |                 | Paper I      | Engineering Geology and Geotechniques (3+1)               | 100                | 4              |    |   | VI         | 6T1             |   | Engineering Geology and Geotechniques (3+1) | 80+20              | 4              |
| 02   |                 | Paper II     | Environmental Geology and Geohazards (3+1)                | 100                | 4              | V  |   | 5T4(1)     |                 | Environmental Geology and Geohazards (3+1) (Semester V)   | 80+20                                       | 4                  |                |
| 03   |                 | Paper III    | Applied and Industrial Micropaleontology (4)              | 100                | 4              | VI |   | 6T2        |                 | Applied and Industrial Micropaleontology (4)  | 80+20                                       | 4                  |                |

|    |  |              |  |       |   |
|----|--|--------------|--|-------|---|
| 04 |  | Paper IV     | Petroleum Exploration (4)  | 100   | 4 |
| 05 |  | Practical I  | Engineering Geology and Environmental Geology                      | 80+20 | 4 |
| 06 |  | Practical II | Micropaleontology, Petroleum Exploration and Geological Field Work | 80+20 | 4 |
| 07 |  |              | Seminar VI   | 25    | 1 |

|    |        |  |   |       |   |
|----|--------|--|---|-------|---|
| VI | 6T3(1) |  | Petroleum Exploration (4)   | 80+20 | 4 |
| VI | 6P1    |  | Engineering Geology and Applied & Industrial Micropaleontology  | 100   | 4 |
| VI | 6P2    |  | Based on Paper 6T3 (Core Elective 2 Optional: Petroleum Exploration / Basin Analysis and Sequence Stratigraphy / Marine Geology and Oceanography) Geodesy and Geological Field Work | 100   | 4 |
| VI | 6S1    |  | Seminar-VI  | 25    | 1 |