

## CONSTRUCTION MANAGEMENT (Th-02)

Date of Commencement of classes: 14.03.2022

Date of Closing of classes: 11.06.2022

### LIST OF WEEK/ MONTH WISE AVAILABLE DAYS/ PERIODS

| Sl. No.      | Month | Week-wise no. of academic days available |           |           |           |           | Total no. of academic days |
|--------------|-------|--|-----------|-----------|-----------|-----------|----------------------------|
|              |       | Week- 1                                  | Week- 2   | Week- 3   | Week- 4   | Week- 5   |                            |
| 1            | March | --                                       | --        | 4         | 6         | 3         | 13                         |
| 2            | April | 2  | 5         | 4         | 4         | 6         | 21                         |
| 3            | May   | 5  | 4         | 4         | 5         | 2         | 20                         |
| 4            | June  | 3  | 6         | --        | --        | --        | 09                         |
| <b>Total</b> |       | <b>10</b>                                | <b>15</b> | <b>12</b> | <b>15</b> | <b>11</b> | <b>63</b>                  |

### NO. OF AVAILABLE CLASSES PER WEEK/ MONTH

| Sl. No.      | Month | Week-wise no. of academic periods available |           |           |           |           | Total no. of academic periods |
|--------------|-------|---|-----------|-----------|-----------|-----------|-------------------------------|
|              |       | Week- 1                                     | Week- 2   | Week- 3   | Week- 4   | Week- 5   |                               |
| 1            | March | --  | --        | 4         | 6         | 3         | 13                            |
| 2            | April | 2   | 5         | 4         | 4         | 6         | 21                            |
| 3            | May   | 5   | 4         | 4         | 5         | 2         | 20                            |
| 4            | June  | 3   | 6         | --        | --        | --        | 09                            |
| <b>Total</b> |       | <b>10</b>                                   | <b>15</b> | <b>12</b> | <b>15</b> | <b>11</b> | <b>63</b>                     |

### CHAPTER-WISE DISTRIBUTION OF PERIODS

| Sl no | Topics  | Periods as per syllabus | Periods actually Needed | Expected marks |
|-------|---|-------------------------|-------------------------|----------------|
| 01    | Introduction To Construction Management                       | 04                      | 04                      | 05             |
| 02    | Construction planning   | 07                      | 10                      | 15             |
| 03    | Materials & Stores Management                                 | 04                      | 03                      | 10             |
| 04    | Construction Site Management                                  | 05                      | 05                      | 15             |
| 05    | Construction organizations                                    | 06                      | 07                      | 15             |
| 06    | Construction Management & Labour Management                   | 06                      | 06                      | 10             |
| 07    | Equipment Management  | 06                      | 05                      | 10             |
| 08    | Quality Control   | 05                      | 03                      | 05             |
| 09    | Monitoring Process  | 06                      | 04                      | 05             |
| 10    | Safety Management in construction                             | 05                      | 05                      | 05             |
| 11    | Role of Vulnerability Atlas of India in construction projects | 06                      | 08                      | 05             |
|       | <b>Total</b>  | <b>60</b>               | <b>60</b>               | <b>100</b>     |

Sign of Lect.

Sign of HOD.

Sign of AIC

Sign of Vice Principal

## LESSON PLAN

| Name of the Month     | Week No.              | Class day       | Art. No.                                      | Theory Topics  |  |
|-----------------------|-----------------------|-----------------|---|--|--|
| M<br>A<br>R<br>C<br>H | 3 <sup>rd</sup>       | 1 <sup>st</sup> | 1.1   | <b>Chapter no.(Introduction To Construction Management)</b><br>Aims and objectives of construction management  |  |
|                       |                       | 2 <sup>nd</sup> | 1.2   | Functions of construction management   |  |
|                       |                       | 3 <sup>rd</sup> | 1.3   | The construction team component owner, engineer, architect, contractor-Their functions and interrelationship and jurisdiction.   |  |
|                       |                       | 4 <sup>th</sup> | 1.4   | Resources for construction management-men, machines, materials, money  |  |
|                       | 4 <sup>th</sup>       | 1 <sup>st</sup> | 2.1   | <b>Chapter no. 02 (Construction planning)</b><br>Importance of Construction Planning   |  |
|                       |                       | 2 <sup>nd</sup> | 2.2   | Developing work breakdown structure for construction work  |  |
|                       |                       | 3 <sup>rd</sup> | 2.3   | Construction Planning stages-Pre-tender stage, Post-tender stage   |  |
|                       |                       | 4 <sup>th</sup> | 2.4   | Construction scheduling by Bar charts-<br>preparation of Bar Charts for simple construction works  |  |
|                       |                       | 5 <sup>th</sup> |   | Preparation of schedules for labour materials, machinery, finance for small works  |  |
|                       |                       | 6 <sup>th</sup> | 2.5   | Preparation of schedules for labour materials, machinery, finance for small works  |  |
|                       | 5 <sup>th</sup>       | 1 <sup>st</sup> | 2.6   | Limitation of Bar charts   |  |
|                       |                       | 2 <sup>nd</sup> | 2.7   | Construction scheduling by network techniques-<br>definition of terms  |  |
|                       |                       | 3 <sup>rd</sup> |   | PERT and CPM techniques, Advantages and disadvantages of two techniques, network analysis, estimation of time and critical path,<br>application of PERT and CPM techniques in sample construction works. |  |
|                       | A<br>P<br>R<br>I<br>L | 1 <sup>st</sup> | 1 <sup>st</sup>                               | 3.1  | <b>Chapter no.03(Materials &amp; Stores Management)</b><br>Classification of stores -<br>storage of stock                      |
| 2 <sup>nd</sup>       |                       |                 | Issue of materials-indent , invoice, Bin card |  |  |
| 2 <sup>nd</sup>       |                       | 1 <sup>st</sup> | 4.1   | 4.4  | <b>Chapter no.04(Construction Site Management)</b><br>Job Layout-Objectives ,Review plans ,Specifications ,Layout of equipment |
|                       |                       | 2 <sup>nd</sup> |   |  | Location of equipment organizing labour at site  |
|                       |                       | 3 <sup>rd</sup> |   |  | Job Layout for different construction sites  |
|                       |                       | 4 <sup>th</sup> |   |  | Principles of storing material at site   |
|                       |                       | 5 <sup>th</sup> |   |  | Cont.  |
| 3 <sup>rd</sup>       |                       | 1 <sup>st</sup> | 5.1   | 5.2  | <b>Chapter no.05(Construction organizations)</b><br>Introduction –Characteristics ,Structure, importance                       |
|                       |                       | 2 <sup>nd</sup> |   |  | Organization types-line and staff, functions and their characteristics   |
|                       |                       | 3 <sup>rd</sup> |   |  | Principles of organization- Meaning and significance of terms- control, Authority, Responsibility, Job & task                  |
| 4 <sup>th</sup>       |                       | 1 <sup>st</sup> | 5.3   |  | Principles of organization- Meaning and significance of terms- control, Authority, Responsibility, Job & task                  |

|                 |                 |                 |                 |   |   |
|-----------------|-----------------|-----------------|-----------------|---|---|
|                 |                 | 2 <sup>nd</sup> | 5.4             | Leadership-necessity, styles of leadership, Role of leader  |   |
|                 |                 | 3 <sup>rd</sup> | 5.5             | Human relations-relations with subordinates, peers  |   |
|                 |                 | 4 <sup>th</sup> |                 | Supervisors Characteristics of group behavior<br>Mob psychology, handling of grievances Absenteeism, labour welfare   |   |
|                 | 5 <sup>th</sup> | 1 <sup>st</sup> | 5.6             | Conflicts in organization -genesis of conflicts types- Intrapersonal, interpersonal, intergroup, resolving conflicts  |   |
|                 |                 | 2 <sup>nd</sup> | 6.1             | <b>Chapter no.06 (Construction Management &amp; Labour Management)</b><br>Preparing Labour schedule   |   |
|                 |                 | 3 <sup>rd</sup> | 6.2             | Essential steps for optimum labour output   |   |
|                 |                 | 4 <sup>th</sup> | 6.3             | Labour characteristics  |   |
|                 |                 | 5 <sup>th</sup> | 6.4             | Wages & their payment   |   |
|                 |                 | 6 <sup>th</sup> | 6.5             | Labour incentives   |   |
|                 | M<br>A<br>Y     | 1 <sup>st</sup> | 1 <sup>st</sup> | 6.6   | Motivation-Classification of motive ,Different approaches to motivation                       |
|                 |                 |                 | 2 <sup>nd</sup> | 7.1   | <b>Chapter no.07 (Equipment Management)</b><br>Preparing the equipment schedule               |
|                 |                 |                 | 3 <sup>rd</sup> | 7.2   | Identification of different alternative equipment   |
|                 |                 |                 | 4 <sup>th</sup> | 7.3   | Importance of Owning & operating costs in making decisions for hiring & purchase of equipment |
| 5 <sup>th</sup> |                 |                 | 7.4             | Inspection and testing of equipment   |   |
| 2 <sup>nd</sup> |                 | 1 <sup>st</sup> | 7.5             | Equipment maintenance   |   |
|                 |                 | 2 <sup>nd</sup> | 8.1             | <b>Chapter no.08 (Quality Control )</b><br>Concept of quality in construction   |   |
|                 |                 | 3 <sup>rd</sup> | 8.2             | Quality Standards- during construction,after construction, destructive & Methods.nondestructive Methods.  |   |
|                 |                 | 4 <sup>th</sup> |                 | Cont.   |   |
| 3 <sup>rd</sup> |                 | 1 <sup>st</sup> | 9.1             | <b>Chapter no.09 (Monitoring progress)</b><br>Programme and progress of work  |   |
|                 |                 | 2 <sup>nd</sup> | 9.2             | Work study  |   |
|                 |                 | 3 <sup>rd</sup> | 9.3             | Analysis and control of physical and progress financial progress corrective measures.   |   |
|                 |                 | 4 <sup>th</sup> |                 | Cont.   |   |
| 4 <sup>th</sup> |                 | 1 <sup>st</sup> | 10.1            | <b>Chapter no.10 (Monitoring Process)</b><br>Importance of safety   |   |
|                 |                 | 2 <sup>nd</sup> | 10.2            | causes of accident in construction work effects   |   |
|                 |                 | 3 <sup>rd</sup> | 10.3            | Safety measures in work sites for excavation Scaffolding ,formwork, fabrication and erection, demolition.   |   |
|                 |                 | 4 <sup>th</sup> | 10.4            | Development of safety consciousness   |   |
|                 |                 | 5 <sup>th</sup> | 10.5            | Safety legislation- Workman's compensation act, contract labour act.  |   |
| 5 <sup>th</sup> |                 | 1 <sup>st</sup> | 11.1            | <b>Chapter no.11(Role of Vulnerability Atlas of India in construction projects )</b><br>Introduction to Vulnerability Atlas of India, Concepts of natural hazards and disasters and vulnerability profile of India. Definition of disaster related terms. |   |

|                  |                 |                 |      |  |
|------------------|-----------------|-----------------|------|--|
|                  |                 | 2 <sup>nd</sup> | 11.2 | Earthquake hazard and vulnerability, Magnitude and intensity scales of earthquake, seismic zones, earth quake hazard maps, types of structures and damage classification, effects in housing and resistant measures. |
| J<br>U<br>N<br>E | 1 <sup>st</sup> | 1 <sup>st</sup> |      | types of structures and damage classification, effects in housing and resistant measures   |
|                  |                 | 2 <sup>nd</sup> | 11.3 | Wind / Cyclone hazard and vulnerability, wind speed and pressures, wind hazard and cyclone occurrence maps, storm surveys and cyclone resistant measures   |
|                  |                 | 3 <sup>rd</sup> | 11.4 | Flood hazard and vulnerability, Flood hazard and Flood prone areas of the country,.General protection of habitants and flood resistant construction  |
|                  | 2 <sup>nd</sup> | 1 <sup>st</sup> | 11.5 | Landslides, Tsunamis and Thunderstorm hazards and vulnerability,Landslide & Thunderstorm incidence maps, Measures against Tsunami hazards.   |
|                  |                 | 2 <sup>nd</sup> | 11.6 | Housing vulnerability risk tables and usage of vulnerability atlas of India,Inclusion of vulnerability atlas in Tender documents.  |
|                  |                 | 3 <sup>rd</sup> |      | Cont.  |
|                  |                 | 4 <sup>th</sup> |      | Practice class   |
|                  |                 | 5 <sup>th</sup> |      | Practice class   |
|                  |                 | 6 <sup>th</sup> |      | Practice class   |

Coverage of Chapters up to the internal assessment (2<sup>nd</sup> week of May 2022): 1, 2,3,4 &5.

Learning Resources:

| Sl. No | Name of Authors  | Titles of Book                              | Name of Publisher                |
|--------|--|---|----------------------------------|
| 1      | M. R. Samal & R.L. Sahoo                                   | Construction Management                     | Kalyani Publication              |
| 2      | PS Gahlot & B M Dhir                                       | Construction planning and management        | New age international Publishers |
| 3      | Robert L Peurifoy & Willium B Ledbetter                    | Construction Planning equipment and methods | TMH Education                    |
| 4      | Dr. U K Shrivastava  | Construction planning and management        | Galgotia Publications            |
| 5      | SC Sharma  | Construction equipment and its management   | Khanna Publishers                |
| 6      | B Sengupta & H Guha  | Construction management and planning        | TMH Education                    |
| 7      | Vulnerability Atlas of India:- Published By BMTPC of India |   |                                  |