

**VINAYAKA MISSIONS RESEARCH FOUNDATION**  
**(Deemed to be University)**  
**M.E -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**CONSTRUCTION ENGINEERING AND MANAGEMENT**  
**FIRST SEMESTER**  
**PROJECT FORMULATION AND APPRAISAL**  
(Candidates admitted under 2016 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions  
**Part-A (10 x 2 =20 Marks)**

- 1 What is techno-economic feasibility report?
- 2 Mention any two roles of project manager
- 3 What do you mean by sales revenue?
- 4 Define capital.
- 5 Expand ARR.
- 6 What are the demands of project?
- 7 What do you mean by financial institutions?
- 8 What is market value?
- 9 Expand BOLT.
- 10 What do you mean by trade marks?

**PART-B (5 x 16 = 80 )**

- 11 a. What are the economical activities involved in project?  
**OR**  
b. A project without a project manager-Discus in detail.
- 12 a. What are the activities involved in project costing?  
**OR**  
b. Discus in detail the various methods involved in cash flows.
- 13 a. What are the Problems with using internal rate of return?  
**OR**  
b. Explain in detail the capital investment appraisal process.
- 14 a. Write short notes on: (a) Land owner project (b) Local ownership  
**OR**  
b. Explain in detail the raising capital in project.
- 15 a. Write a short notes on: (a) Technology transfer (b) Foreign collaborations  
**OR**  
b. Explain in detail the industrial research and technology transfer in infrastructure.

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**M.E -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**CONSTRUCTION ENGINEERING AND MANAGEMENT**  
**FIRST/SEMESTER SEMESTER**  
**ELECTIVE - ADVANCED CONCRETE TECHNOLOGY**  
(Candidates admitted under 2016 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions  
**Part-A (10 x 2 =20 Marks)**

- 1 What are the types of cement?
- 2 Give some example for water proofing admixtures.
- 3 What is meant by polymer concrete?
- 4 What are the requirements of self compacting concrete?
- 5 What are the factors considered in concrete mix?
- 6 Differentiate standard deviation and coefficient of variation
- 7 What is fatigue limit?
- 8 Has the moisture condition of concrete any effect on its tensile strength?
- 9 Explain contraction joints
- 10 How would you prevent acid attack?

**PART-B (5 x 16 = 80 )**

- 11 a. Explain about structure of hydrated cement.  

**OR**

b. What is slump loss and explain the steps for reducing slump loss?
- 12 a. Explain glass fibre reinforced cement  

**OR**

b. What is aerated concrete and explain the properties and mix proportion of aerated concrete?
- 13 a. Briefly explain the mix design for pumpable concrete  

**OR**

b. Explain sampling and acceptance criteria.
- 14 a. Explain briefly about bond strength.  

**OR**

b. Briefly explain about transition zone.
- 15 a. Explain (1) Drying shrinkage (2) Thermal shrinkage  

**OR**

b. Explain about the chemical attack on concrete.

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**VINAYAKA MISSIONS RESEARCH FOUNDATION**  
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**M.TECH/ M.E -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**CONSTRUCTION ENGINEERING AND MANAGEMENT**  
**SECOND SEMESTER**  
**CONTRACT LAWS AND REGULATIONS**  
(Candidates admitted under 2016 & 2017 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions  
**Part-A (10 x 2 =20 Marks)**

- 1 Define contract
- 2 Brief about legal relationship in construction contract
- 3 What is interpretation of contract laws?
- 4 State the procedures for bidding
- 5 Define arbitration
- 6 Define award and costs
- 7 What do you mean by bonding?
- 8 Differentiate between direct and indirect tax
- 9 State any two courses of industrial dispute
- 10 What is lay –off?

**PART-B (5 x 16 = 80 )**

- 11 a. Elaborate the characteristic features of the Indian contract laws  
**OR**  
b. Distinguish between an agreement and contract
- 12 a. Elaborate the steps in interpretation of commercial law  
**OR**  
b. What are the effects of contractual relationships in tenders?
- 13 a. Elaborate the provisions in appointment of arbitrator  
**OR**  
b. What are the various steps in forming an arbitration agreement?
- 14 a. Explain about the various types of insurance contract  
**OR**  
b. State the importance and objectives of local government law
- 15 a. Brief about the wage administration and its provision  
**OR**  
b. Discuss strikes and its different types

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**VINAYAKA MISSIONS RESEARCH FOUNDATION**  
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**M.E -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**CONSTRUCTION ENGINEERING AND MANAGEMENT**  
**SECOND / THIRD SEMESTER**  
**CONSTRUCTION PLANNING, SCHEDULING AND CONTROL**  
(Candidates admitted under 2016 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions  
**Part-A (10 x 2 =20 Marks)**

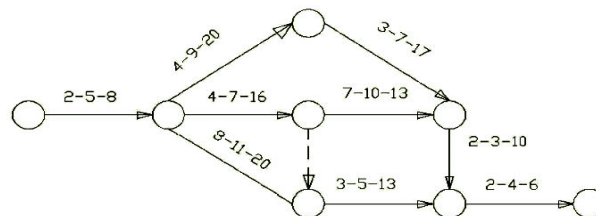
- 1 What is meant by project management?
- 2 What is Master Format?
- 3 What are the scheduling constraints?
- 4 Difference between most likely time & expected mean time.
- 5 Name some cost control technique in use.
- 6 What is meant by indirect cost?
- 7 State about material specification.
- 8 Write the elements of total quality management (TQM).
- 9 Define relational modular data base
- 10 Mention any four organizational implications.

**PART-B (5 x 16 = 80 )**

- 11 a. What is event and activity?. How to estimate the durations of the activity?

**OR**

- b. Briefly explain about planning benefit and scheduling benefit.
- 12 a. For the given PERT network, determine
- A).Expected time, standard deviation and variance of project and show the critical path also.
  - B).Probability of completion of project in 35 days.
  - C).The time duration that will provide 90 % probability of completion in time.



The three time estimates of each activity are mentioned on the network.

**OR**

- b. Discuss about the current developments in CPM and PERT.

(P.T.O)

13 a. Write a short note on forecasting cash flow in construction project.

**OR**

b. Explain how to control the schedules in project.

14 a. Explain work and material specifications with samples

**OR**

b. What are the types of project information?

15 a. Explain other conceptual model of database?

**OR**

b. Explain about management failure.

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**M.E -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**CONSTRUCTION ENGINEERING AND MANAGEMENT**  
**SECOND SEMESTER**  
**COMPUTER APPLICATIONS IN CONSTRUCTION ENGINEERING**  
**AND PLANNING**

(Candidates admitted under 2016 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions  
**Part-A (10 x 2 =20 Marks)**

- 1 List the four applications of Computer
- 2 What are the components of Computer?
- 3 How the linear programs are expressed?
- 4 Define objective function.
- 5 Define Work in Process Inventory.
- 6 Define Storage Cost.
- 7 What is meant by resource leveling?
- 8 Write the formula to compute Earliest finish.
- 9 What is meant by operations simulation?
- 10 What are the purpose of Work Scheduling?

**PART-B (5 x 16 = 80 )**

- 11 a. Explain the categories of Software with example.

**OR**

- b. Explain briefly about software implementation and system management.

- 12 a. Give brief notes about branch and bound techniques.

**OR**

- b. Explain in detail about the application of Optimization Technique in Material Transportation.

- 13 a. Explain in detail about Economic Order Quantity.

**OR**

- b. Explain in detail about working process inventory.

- 14 a. Explain about the various Activities involved in a project for a good Management.

**OR**

- b. A maintenance Activity consists of the following jobs. Draw the network for the project and calculate the total float and free float for each activity. What can you say about the slacks of the events of the project?
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- 15 a. Briefly write about ERP application in Civil Construction.

**OR**

- b. Describe in detail about the steps involved in scheduling of Network Plan.

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**M.E -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**CONSTRUCTION ENGINEERING AND MANAGEMENT**  
**THIRD SEMESTER**  
**ELECTIVE - QUALITY CONTROL AND ASSURANCE IN**  
**CONSTRUCTION**

(Candidates admitted under 2016 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions  
**Part-A (10 x 2 =20 Marks)**

- 1      Mention any two limitations of quality management.
- 2      What is strategic planning?
- 3      List any three applications of ISO 9000?
- 4      Give an example of standard quality management system.
- 5      Define economics. What is feedback mechanism?
- 6      What are the various fields of economics?
- 7      What are the objectives of quantity control?
- 8      What is testing?
- 9      Define environmental policy.
- 10     What is house of quality?

**PART-B (5 x 16 = 80 )**

- 11 a. Briefly about the steps in forming quality circle.  

**OR**
- b. Brief about the responsibilities of authority.
- 12 a. Describe the elements of ISO 9000 standards.  

**OR**
- b. Explain about third party certification with details.
- 13 a. List out the objectives of control charts?  

**OR**
- b. Explain each step in inspection procedures.
- 14 a. Distinguish between quality assurance and quality control.  

**OR**
- b. Briefly explain the steps in designing a product.
- 15 a. Elaborate the provisions of value engineering.  

**OR**
- b. Brief about life cycle process in costing.

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**M.E -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**CONSTRUCTION ENGINEERING AND MANAGEMENT**  
**SECOND SEMESTER**  
**ELECTIVE - MAINTENANCE AND REHABILITATION OF**  
**STRUCTURES**

(Candidates admitted under 2016 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions  
**Part-A (10 x 2 =20 Marks)**

- 1 What are the steps in repair aspect?
- 2 How can you control cracks in a structure?
- 3 Write short notes on fire resistance of concrete
- 4 Write short notes on corrosion mechanism of steel embedded in concrete.
- 5 Explain about the sulphur infiltrated concrete
- 6 Explain the under pining.
- 7 Explain the need of quality assurance of concrete
- 8 Write short notes on vacuum concrete.
- 9 How to conduct demolition technique in construction industry?
- 10 Define accident

**PART-B (5 x 16 = 80 )**

- 11 a. Explain Evaluate the need of repair  

**OR**

 b. Classification of Maintenance Work.
- 12 a. Discuss in detail about control of cracking in mass concrete and repair of cracks.  

**OR**

 b. Explain in detail about the methods used for making high strength concrete for construction as quality assurance
- 13 a. Explain in detail about polymers in concrete and its applications.  

**OR**

 b. Discuss in detail about epoxy resins for structural repairs and rehabilitation.
- 14 a. Discuss in detail about the special concrete of sulphur infiltrated concrete.  

**OR**

 b. Explain in detail about durability of concrete in sea water.
- 15 a. Review recent advanced demolition techniques  

**OR**

 b. Explain the dismantling programme on wall and floors.

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**M.E -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**CONSTRUCTION ENGINEERING AND MANAGEMENT**  
**SECOND SEMESTER**  
**ELECTIVE - CONSTRUCTION PERSONNEL MANAGEMENT**  
(Candidates admitted under 2016 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions  
**Part-A (10 x 2 =20 Marks)**

- 1 Brief about decentralization.
- 2 Mention any four characteristics of organising.
- 3 Write short notes on placement.
- 4 Brief about the centralization.
- 5 Differentiate between individual and group psychology.
- 6 Define leadership
- 7 Differentiate between GPF and EPF
- 8 Brief about industrial disputes.
- 9 State the few employee benefits in work environment.
- 10 List out the disciplinary actions.

**PART-B (5 x 16 = 80 )**

- 11 a. Explain the functions of staffing.  

**OR**

b. Elaborate the functions of controlling.
- 12 a. Discuss the types of organisation.  

**OR**

b. What are the different training types and explain in detail?
- 13 a. What are the works of formal groups? Discuss.  

**OR**

b. Brief about communication, its types and uses in organisation.
- 14 a. Define safety list out the safety measures.  

**OR**

b. Distinguish between the provisions of general provident fund and employment provident fund.
- 15 a. Explain about human resource management and their problems.  

**OR**

b. Explain the importance of employee assessment records.

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**M.E -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**CONSTRUCTION ENGINEERING AND MANAGEMENT**  
**THIRD SEMESTER**  
**ELECTIVE - RESOURCE MANAGEMENT AND CONTROL IN**  
**CONSTRUCTION**

(Candidates admitted under 2016 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions  
**Part-A (10 x 2 =20 Marks)**

- 1 What do you mean by ABC classification?
- 2 What do you mean by equipment classification?
- 3 What do you mean by labour accounting system?
- 4 Define Recruitment.
- 5 Define the time value of purchase of materials .
- 6 What are the uses of ABC analysis for material purchase?
- 7 Write short notes on Event timings.
- 8 Write short notes on Time reduction techniques.
- 9 Brief about the role of computer application in resource management.
- 10 State the use of preparing resource list.

**PART-B (5 x 16 = 80 )**

- 11 a. Explain about Equipment selection and its types.  

**OR**

b. Elaborate the provisions of designing workers financial incentive scheme.
- 12 a. Explain about Equipment selection and its types.  

**OR**

b. Explain about materials provisioning process.
- 13 a. Suggest various measures to minimize the wastage.  

**OR**

b. Brief about the use of operations research in materials planning.
- 14 a. Define planning .Explain the process of planning in project.  

**OR**

b. What are the limitations of network techniques? Explain in detail.
- 15 a. Discuss the scope and importance of value management.  

**OR**

b. Brief about break- even analysis related to profit.

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**M.E -DEGREE EXAMINATIONS- APR/MAY - 2019**  
**CONSTRUCTION ENGINEERING AND MANAGEMENT**  
**THIRD SEMESTER**  
**ELECTIVE - PROJECT SAFETY MANAGEMENT**  
(Candidates admitted under 2016 Regulations-CBCS)

Time : Three Hours

Maximum Marks:100 Marks

Answer **ALL** questions  
**Part-A (10 x 2 =20 Marks)**

- 1 State any two steps in project analysis?
- 2 What is the need for accidents preventions?
- 3 Who can attend the safety meetings?
- 4 Define jobsites.
- 5 What do you mean by substance abuse?
- 6 Define contract of specification.
- 7 Explain work scheduling process in projects?
- 8 Mention any two measures of safety programme.
- 9 Differentiate between a designer and CDM coordinator.
- 10 Define the term owner.

**PART-B (5 x 16 = 80 )**

- 11 a. Explain about human factors in construction safety.  
**OR**  
b. Discuss the legal implications of construction projects.
- 12 a. Discuss about the duties and responsibility of the organise.  
**OR**  
b. Explain the various steps in planning for construction projects.
- 13 a. Brief about the conditions laid down in the contract.  
**OR**  
b. List out the various modes of acceptance of a tender.
- 14 a. Elaborate the role played by the middle managers in safety.  
**OR**  
b. Explain how the safety training given to the employers.
- 15 a. Brief about the safety provisions followed by the designers.  
**OR**  
b. Explain construction design management and its scope.

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