REPAIR AND REHABILITATION

**UNIT-I**

**2 Marks**

1. Define Maintenance.

2. Define Repair.

3. Define Rehabilitation.

4. What are the two facets of maintenance?

5. What are the causes of deterioration?

6. Define physical inspection of damaged structure.

7. How deterioration occurs due to corrosion?

8. What are the steps in selecting a repair procedure?

9. Discuss about the environment effects which leads to deterioration of concrete structure.

10. What is the effect of selecting poor quality material for construction?

11. How can we determine the cause for deterioration of concrete structure?

12. What are the factors to be considered by the designer at the construction site.

13. What are the steps in repair aspect?

14. Define the fixed percentage method of evaluating the strength of existing structure.

15. Discuss about the design and construction errors leading to deterioration of a

structure.

16. Discuss about the quality of supervision to be followed at a site.

17. What are the possible decisions that can be made after evaluating the strength of a structure?

18. How can we evaluate the strength of existing structure by stress analysis?

19. Define the load test method of evaluating the strength of existing structure

20. What are the possible decisions after finding a structure to be inadequate?

**UNIT-II**

**2 Marks**

1. How can use prevent the effect of freezing and thawing in concrete?

2. Write any two tests for assessment of frost damage?

3. How does a concrete structure get affected by heat?

4. How can you control cracks in a structure?

5. Define aggregate splitting?

6. What the factor affecting chemical attack on concrete?

7. Write the methods of corrosion protection?

8. List out some coating for reinforcement to prevent corrosion?

9. Define corner reparation?

10.List any four causes of cracks?

11.What are the types of cracks?

12.What changes occur, when hot rolled steel is heated to 500oc?

13.List out the various types of spalling?

14.List some faults in construction planning?

15.Define corrosion?

16.Give some examples for corrosion inhibitors?

17.Define effective cover?

18.Define corrosion inhibitor?

19.What are the operations in quality assurance system?

20.List the various components of quality control.

**UNIT III**

**2 Marks**

1. What is expansive cement?

2. What is the action of shrink comb in expansive cement?

3. List the various types of polymer concrete.

4. Give the various monomers used in polymer concrete.

5. Define polymer concrete.

6. What are the uses of Polymer concrete?

7. What is sulphur infiltrated concrete?

8.What are the applications of sulphur infiltrated concrete?

9. What is drying shrinkage?

10. What is self stressing cement?

11. What is polymer impregnated concrete?

12.Define polymer partially impregnated concrete.

13...How can we manufacture sulphur infiltrated concrete?

14. What is the difference between ordinary cement and expansive cement?

15. What are the uses of gas forming and expansive chemicals

16) what is the use of corrosion inhibiting chemicals

17) Write the use of antifungus admixtures

18) What are use of curing compounds

19) What are the uses of sealants

20)what are the uses of flooring

**UNIT lV**

**2 Marks**

1.What is Vacuum concrete?

2. What are the equipments used in vacuum concrete?

3.What is Gunite?

4. What are the two types of process in Shotcrete?

5. What are the stages in dry mix process in shotcrete?.

6. What is shotcrete?

7. What are the preliminary investigations before demolition of a structure?

8. Write about protective clothing given before demolition.

9. Give a brief note on shoring and underpinning in demolition.

10. What are the major factors in selecting a demolition procedure?

11.Give the categories of demolition techniques.

12.Write short notes on demolition by hand.

13. In what cases demolition by machine can be done?

14.Write short notes on balling machine.

15.How are explosives used for demolition of a structure?

16 What is a hydraulic pusher arm?

17. What is pre-weakening?

18. What is deliberate collapse?

19. How can you develop a demolition strategy?

20. What are nibblers?

21. What are the considerations before demolition?

**UNIT V**

**2 Marks**

1.What are the techniques required for repairing cracks?

2.Define stitching.

3.What do you mean by blanketing?

4.Define external stressing.

5.Write short notes on Autogenous healing.

6. What is overlay?

7.Give short note on Jacketing.

8.Give an account on how metal bonding is done on concrete member.

9.How clamps are used to overcome low member strength?

10.Define grouting.

11.Give a short note on epoxy coatings.

12.What are protective surface coatings?

13.List some materials used as protective surface coatings.

14.Define dry pack.

15.Give a brief account on routing and sealing.

16.List any four causes of cracks?

17.What are the types of cracks?

18.What is pneumatically applied mortar?

19. What is caging with steel?

20. Give a brief note on dogs in stitching.

21.Give some concrete materials used to overcome weathering action on concrete.

**Unit I 16 marks**

1. Describe the steps in the assessment procedure for evaluate damages in a structure.

2. Explain the various causes for deterioration of concrete structures.

3. Describe in detail about the prevention aspect of maintenance.

4. Describe in detail about the repair aspect of maintenance.

5. Explain in detail about the permeability of concrete.

**Unit II 16 Marks**

1. Explain in detail about quality assurance.

2. Describe the various components of quality control.

3. Discuss in detail about the thermal properties of concrete

4. Elaborately explain about the effect of temperature on concrete.

5. Explain the various corrosion protection methods.

**Unit** **III 16 Marks**

1. Explain in detail about expansive cement.

2. Briefly explain about polymer concrete and its types.

3. Explain in detail about Sulphur infiltrated concrete.

4. Explain in detail ferro cement

5.Explain in detail Fibre Reinforced Concrete

6.Explain in detail fiber reinforced polymeric meshes

**Unit-4 16 Marks**

1.. Briefly explain about vacuum concrete.

2.. Explain in detail about Gunite.

3. Explain Rust Eliminators

4.Describe the preliminary procedures in demolition of a structure.

5.Explain the demolition process of a damaged structure.

6.Describe in detail about the impulsion method of demolition of structures.

7.Discuss in detail about any case study on demolition of structures.

**Unit-5 16** **Marks**

1. Explain the various techniques available for repair of cracks.

2. Explain the various techniques to repair spalling and disintegration of concrete.

3. Describe the various strengthening techniques to overcome low member strength.

4. Explain in detail about Chemical disruption on concrete.

5. Describe in detail about the weathering action on concrete.