

MASTER OF CONSTRUCTION ENGG. 1ST. SEM. EXAM.-2017**REPAIR MATERIALS FOR MASONRY AND CONCRETE STRUCTURES****Time : THREE HOURS****Full Marks : 100****PART I****Instructions : Use Separate Answer scripts for each Group**

No of Questions	Questions	Marks
	Answer any Four Questions	
Q1.a)	Explain the following (i) Latex (ii) Emulsion (iii) Glass Transition Temperature (iv) Minimum film forming temperature (v) Polymer Modified Cementitious Mixture	
Q1.b)	Discuss how the introduction of fibres is beneficial for improvement of properties of concrete.	12.5
Q2.	Write a short note on Fly Ash based concrete.	12.5
Q3.a)	What are the advantages of Self Compacting Concrete over conventional concrete?	07
Q3.b)	Write a short note on application of Acrylic Latex.	05.5
Q4.	Write a short note on water reducing and high range water reducing admixtures.	12.5
Q5.	Describe slump flow tests. What are the different parameters measured in slump flow test? How these parameters are linked with performance of SCC?	12.5
Q6.a)	Explain the role of the following in case of epoxy concrete i) Filler, ii) Extender, iii) Flexibilizer	4.5
Q6.b)	Briefly discuss the following i) Pot life of epoxy compound ii) Transition zone in concrete micro structure iii) Secant modulus iv) Powder in case of self compacting concrete.	08

Masters in Construction Engg,2017 (Evening) Examination

(1st Sem)

Subject: Repair materials for masonry & Concrete structure

PART - I]

Answer Q1 and any 2 from the rest

5+4+4+4+5+3=25

1. a) Which parameters will be in your check list while you are at a site for assessment of distress?
- b) Mention the relevant points that ultimately determines the acceptability of a construction materials-new or old.
- c) Before finalising any new material for repairing what are the basic information that are normally enquired by an engineer?
- d) Explain through a chart 'level of influence on material performance' while selecting a repair material.
- e) What do you mean by compatibility of materials?
- f) Briefly discuss on 'Design & Field practice' relating to repairing of structure(Concrete)

4+4+4.5=12.5

- 2.a) What do you mean by grout and grouting materials?
- b) What will be your parameters that you go for selection of a particular type of grouting material for a particular repairing job?
- c) Give an account on different types of grouting material & preparation of site for application of grouting.

4+4+4.5=12.5

3.

- a) Mention the points based on which you will go for recommending FRP as repairing materials over other materials?
- b) Mention the advantages of use of composite materials in repairing jobs.
- c) Write notes on any two types from resin, polyester, vinylester including its engineering properties.

3+3+3+3.5=12.5

4.a) What do you mean by any mortar?

- b)Over the ages selection of construction/ repairing materials have changed like - cement-mortar now more used than lime -mortar which were mainly used in old ages. State the reasons in your words.
- c) Mention points for preference of use of lime-mortar to other materials
- d)Give a neat Sketech showing the cycle for reaction /use of lime as a mortar.