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| Image result for adamas university logo | **ADAMAS UNIVERSITY**  **END SEMESTER EXAMINATION**  (Academic Session: 2020 – 21) | | |
| **Name of the Program:** | M.Tech. | **Semester:** | I |
| **Paper Title:** | Modern Construction Materials | **Paper Code:** | ECE61127 |
| **Maximum Marks:** | 50 | **Time Duration:** | 3 Hrs |
| **Total No. of Questions:** | 17 | **Total No of Pages:** | 2 |
| *(Any other information for the student may be mentioned here)* | 1. At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name & Code, Date of Exam. 2. All parts of a Question should be answered consecutively. Each Answer should start from a fresh page. 3. Assumptions made if any, should be stated clearly at the beginning of your answer. | | |

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| **Group A**  **Answer All the Questions (5 x 1 = 5)** | | | |
| 1 | **Define** the term ‘Ready Mix Concrete’. | **R** | **CO1** |
| 2 | **Why** Brass is frequently used to make musical instruments? | **R** | **CO2** |
| 3 | **List** the composition of Polymer concrete. | **R** | **CO3** |
| 4 | **Tell** four names of Mineral admixture. | **R** | **CO4** |
| 5 | **What** is Smart material? | **R** | **CO5** |
| **Group B**  **Answer All the Questions (5 x 2 = 10)** | | | |
| 6 a) | **Outline** the application of Cast iron. | **U** | **CO1** |
| **(OR)** | | | |
| 6 b) | **Outline** the application of Grey cast iron. | **U** | **CO1** |
| 7 a) | **Construct** a short note on Bronze. | **Ap** | **CO2** |
| **(OR)** | | | |
| 7 b) | **Construct** a short note on Brass. | **Ap** | **CO2** |
| 8 a) | **What** is the need of Special concrete? | **R** | **CO3** |
| **(OR)** | | | |
| 8 b) | **Show** at least ten names of Special concrete | **R** | **CO3** |
| 9 a) | **How** Air entraining admixture improves workability of concrete? | **R** | **CO4** |
| **(OR)** | | | |
| 9 b) | **Demonstrate** some major reasons for using Admixture. | **U** | **CO4** |
| 10 a) | **What** is function of piezoelectric material? | **R** | **CO5** |
| **(OR)** | | | |
| 10 b) | **What** is function of shape memory material? | **R** | **CO5** |
| **Group C**  **Answer All the Questions (7 x 5 = 35)** | | | |
| 11 a) | **Analyze t**he effect of all the parameters on workability of concrete. | **An** | **CO1** |
| **(OR)** | | | |
| 11 b) | **Construct** a short note on Low carbon steel. | **Ap** | **CO1** |
| 12 a) | **Analyze** the compositions, properties and application of some Cu alloys. | **An** | **CO2** |
| **(OR)** | | | |
| 12 b) | **Analyze** the compositions, properties and application of some Al alloys. | **An** | **CO2** |
| 13 a) | 1. **What** is Self compacting concrete? 2. **What** are the ingredients used in Self compacting concrete? | **R** | **CO3** |
| **(OR)** | | | |
| 13 b) | 1. **Discuss** some uses of Self compacting concrete. 2. **Discuss** about Viscosity modifying Self compacting concrete. | **Creating** | **CO3** |
| 14 a) | **List** the four main purposes of chemical admixtures using concrete. | **R** | **CO4** |
| **(OR)** | | | |
| 14 b) | **Classify** the admixtures in detail. | **U** | **CO4** |
| 15 a) | **Illustrate** the role played by super plasticizers in concrete. | **U** | **CO4** |
| **(OR)** | | | |
| 15 b) | **Demonstrate** any four pozzolanic admixtures and discuss briefly. | **U** | **CO4** |
| 16 a) | **What** makes a material a ‘smart’ material? | **R** | **CO5** |
| **(OR)** | | | |
| 16 b) | **Which** properties of smart materials are useful in their non-construction applications? | **R** | **CO5** |
| 17 a) | **Illustrate** in details the different types of ‘smart’ material | **U** | **CO5** |
| **(OR)** | | | |
| 17 b) | **How** might smart materials assist to reduce waste material? | **R** | **CO5** |