Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec– 2017**

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|  |  |  |  |
| **Code :** | **14ME2048** | **Duration :** | **3hrs** |
| **Sub. Name :** | **FOUNDRY TECHNOLOGY** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

|  |  |  |  |  |
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| **Q.No.** | **Sub Div** | **Questions** | **Course Outcome** | **Marks** |
| 1. |  | Write short notes on following   1. Loose Piece Pattern. 2. Sweep Pattern. 3. Skeleton Pattern. 4. Match Plate Pattern. | CO1 | 5  5  5  5 |
| (OR) | | | | |
| 2. | a. | Explain the steps involved in foundry operation. | CO1 | 12 |
| b. | Explain the pattern design considerations. | CO1 | 8 |
|  |  |  |  |  |
| 3. | a. | Explain briefly the main constituents of molding sand. | CO1 | 14 |
|  | b. | How do the grain size and shape affect the performance of molding sand? | CO1 | 6 |
| (OR) | | | | |
| 4. | a. | Name and describe the different properties of good molding sand. | CO1 | 15 |
|  | b. | How to determine the grain fineness of foundry sand? | CO1 | 5 |
|  |  |  |  |  |
| 5. |  | Explain process of investment casting with neat sketch. State the advantages, limitations and the applications of investment casting process. | CO2 | 20 |
| (OR) | | | | |
| 6. |  | Explain semi centrifugal casting process with neat sketch. State the advantages, limitations and application of semi centrifugal casting process. | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | With a neat sketch explain cupola furnace, indicating its various zones and advantages, limitations and application. | CO2 | 20 |
| (OR) | | | | |
| 8. | a. | Explain the construction features and working of electric arc furnace. | CO2 | 10 |
|  | b. | State and explain any seven major casting defects, their causes and remedies. | CO2 | 10 |
|  |  |  |  |  |
|  | | **Compulsory:** |  |  |
| 9. | a. | Explain the role of riser in sand casting. | CO2 | 10 |
|  | b. | Explain the objectives necessary for a good plant layout. | CO2 | 10 |

ALL THE BEST