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**END SEMESTER SUPPLEMENTARY EXAMINATIONS FEBRUARY 2019**  
**PE 201 (NEW SCHEME) ENGINEERING MATERIALS & MRTALLURGY**  
**MAXIMUM MARKS : 40** **TIME:3 hrs.**

**ANSWER ANY 5 QUESTIONS**  
**ALL QUESTIONS CARRY EQUAL MARKS**

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| 1a. Discuss about plastic deformation in Poly crystalline materials.   | 04 |
| 1b. Discuss about Slip and Twinning with reference to the crystals.  | 04 |
| 2a. Discuss about the methods of preventing Corrosion.   | 04 |
| 2b. Write a brief note on properties, composition and application of any two types of Aluminium alloys.            | 04 |
| 3a. Write a brief note on strengthening mechanisms of metals.  | 04 |
| 3b. Explain the importance of Eutectic and Eutectoid points in a Binary phase diagram.                             | 04 |
| 4a. Explain Creep fracture with a suitable diagram and suggest suitable materials against Creep fracture.          | 04 |
| 4b. Explain the mechanism of Brittle fracture and also discuss about Ductile to Brittle transition in metals.      | 04 |
| 5a. Explain about classification of Composite materials based on the type of Matrix used.                          | 04 |
| 5b. Discuss about the applications of composite materials in industry.   | 04 |
| 6a. Explain about different compaction techniques used in making a component by using Powder metallurgy technique. | 04 |
| 6b. Write a brief note on Surface treatment of Powder-Metallurgy components.                                       | 04 |