

Code No: 154BW

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech II Year II Semester Examinations, March - 2022****POWER SYSTEM - I****(Electrical and Electronics Engineering)****Time: 3 Hours****Max. Marks: 75****Answer any five questions****All questions carry equal marks**

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1. Construct the hydro power plant with neat sketch and explain each component. [15]
2. Discuss the principle and operation of fuel cell with neat diagram. [15]
- 3.a) Discuss about base load and peak load plants with suitable diagrams.  
b) Explain i) Load curve ii) Load duration curve [8+7]
4. Classify tariffs and explain in brief with expressions. [15]
5. Explain about various types of overhead line insulators. [15]
- 6.a) Explain different types of cables.  
b) Derive an expression for capacitance of a single core cable. [9+6]
7. Derive an expression for the inductance of a 3-phase transmission line with  
a) Symmetrical spacing b) unsymmetrical spacing. [8+7]
- 8.a) How does AC distribution differ from DC distribution?  
b) Explain the ring main distribution system with neat sketch and write the advantages over radial distribution system. [7+8]

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