

**Pre. Ph.D. Course Work (2017 Course) : SUMMER - 2018 Civil
Engg)**

SUBJECT : PAPER – II (CIVIL ENGINEERING)

Day : **Tuesday**
Date : **26/06/2018**

S-2018-4785

Time: **10.00 AM TO 01.00 PM**
Max. Marks. 100

N.B. :

- 1) All questions are **COMPULSORY**.
- 2) Draw neat labeled diagrams **WHEREVER** necessary.
- 3) Figures to the right indicate **FULL** marks.

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- Q.1** Write a short note on – pressure fluctuations in hydraulic jump. (10)
OR
What are different energy dissipaters? Explain with example. (10)
- Q.2** What is critical tractive stress? Explain its significance in hydraulics. (10)
OR
Explain the merits and demerits of using uniform and non-uniform sediment in scour around bridge piers. (10)
- Q.3** Enlist various theories of failure. Explain maximum principle stress theory and maximum shear stress theory. (10)
OR
What are different methods of analysis of statically indeterminate beams? Explain any two methods. (10)
- Q.4** Explain the various steps involved in determination of seismic design forces by static method. (10)
OR
Discuss the concept of damping. (10)
- Q.5** Explain Rankine's earth pressure theory. (10)
OR
Discuss evaluation profile of earth embankment. (10)
- Q.6** What are the applications of CPM and PERT in project management? (10)
OR
Explain the steps in solving the Simplex method linear programming problem with example. (10)
- Q.7** Explain with sketch the principle and working of activated sludge process. (10)
OR
What is coagulation – flocculation? Explain chemical assisted sedimentation. (10)
- Q.8** What are the objectives of environment audit? (10)
OR
Explain with sketch Sanitary landfill. (10)
- Q.9** Discuss the design procedure of flexible pavement. (10)
OR
Discuss the design parameters for rigid pavements. (10)
- Q.10** Explain the importance of mass and rapid transport system. (10)
OR
Discuss BOT and BOOT. (10)

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