

**B. CONS. ENGG. 3RD YR 1ST. SEM. SUPPLEMENTARY EXAM.-2017****Construction Plants and Equipments**

Time : Three hours

Full Marks : 100

Group / Part : PART I

Instructions : Use Separate Answer scripts for each Group  
 Answer any Three Questions

No of Questions	Part I / Part-II	Marks
Q1.	Draw a sketch of telescopic hydraulic boom crane with out-riggers? Show its different parts.	20
Q2	Write a descriptive note on "Normal Cylindrical Concrete Pump". Describe the pumping methodology with a neat sketch.	20
Q3	Draw a sketch of "Dragline" and show its different parts, in which respects "Dragline" is special excavating equipments with respect to normal hydraulic excavator.	20
Q4.	Draw a neat sketch of "Fixed Base Tower Crane", showing different parts of it. Describe the working methodology of Tower Crane.	20

Name of Examination: **B.Cons. Engg. 3 Yr 1<sup>ST</sup> Semester Supplementary Exam, 2017**

Subject: **Construction Plants & Equipment**

**PART-II**

**Answer any two of the questions**

**4X5=20**

1. a) What do you mean by the asphalt paving materials?  
b) Explain any three from: -Friction course, leveling course, prime coat, tack coat, recycling.  
c) What are the objectives for blending aggregates & asphalt binder?  
d) Define natural asphalts & commercially refined asphalt.  
e) What are the cause-effect relationship for poor skid resistance & poor fatigue resistance?  

**2+2+3+ 4+3+3X2=20**
2. What do you mean by compaction of soil-explain in your term. Why is it done? What are the methods and end results specifications? Mention the types of compacting equipment. Explain any two of them. Draw the curves  
Ground contact pressure vs wheel load. Also draw the curve of pressure  
Bulb of load distribution.  

**1+ 3+4X4 =20**
3. What is blast damage? Define the mechanism of blast damages- draw sketches if required. What are the forms of damages? Mention the factors that affect the blast. Mention the technique for reduction blast damage. Define the parameters for controlled blasting.  

**1+3+4X4=20**
4. What is micro-tunneling? Name the allied equipment for micro-tunneling. What are the types of micro tunneling? How will design the micro tunneling installation? Mention parameters on which jacking force depends. What are the precautions to be taken up difficult soils during micro-tunneling?