

JK LAKSHMIPAT UNIVERSITY, JAIPUR

INSTITUTE OF ENGINEERING AND TECHNOLOGY

EndTerm Examination (Regular/Backlog), November 2016
B. Tech in Civil Engineering, Semester VII

Roll No.....

COURSE CODE: CONSTRUCTION EQUIPMENT
METHODS (CE703)

Time: 3 hours Max. Marks: 100

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.

Q.1	Objective type multiple choice questions/ fill in the blanks (10 questions @ 1 mark)	10
i.	Full form of SD in construction is _____	
ii.	Pre bid meetings are called to reduce (a) Material (b) Man power (c) doubts (d) none of the above	
iii.	Arrow diagramming is (a) AOA (b) AON (c) Both (d) None of the above	
iv.	Dispersion in project network analysis= Pessimistic duration - _____	
v.	Depreciation rate (R_m) in SOY method = _____	
vi.	Steam driven crane was first used in India in (a) 1903 (b) 1913 (c) 1923 (d) 1933	
vii.	Full name of Public sector undertaking BEML is _____	
viii.	Preventive maintenance is (a) Breakdown maintenance (b) Corrective maintenance (c) Failure based maintenance (d) Scheduled maintenance	
ix.	Name of four types of load bearing piles are _____	
x.	Write any two types of crushers _____	
Q.2	Short answer type questions (4 questions @ 2.5 marks)	10
a	Write four attributes of construction contracts.	
b	Describe three earthmoving equipments viz. Dozer, Scraper and Grader.	
c	Write short note on rolling resistance.	
d	What is the effect of temperature on the performance of internal combustion engine?	
Q.3A	Write methods to reduce the costs of construction.	05
Q.3B	What points should contractor study before bidding to achieve economy?	05
Q.4A	Describe the Sum of Years method of depreciation of construction equipments.	05
Q.4B	What points should be considered during selection of equipments?	05
Q.5A	Describe the use of compressed air in construction equipments. Also, describe Boyle's law and Charle's law.	05

Q.5B	30 Cum of air, at an initial gauge pressure of 40 psi and temperature of 50 deg. Centigrade is compressed to a volume of 6 Cum at a temperature of 110 deg. Centigrade. Determine the final gauge pressure. The atmospheric pressure is 14.46 psi.	05
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Q.6A	Describe purpose of tunneling, number of entrances, and tunneling operations.	05
Q.6B	What are the uses of pumps on construction projects and write the classification of pumps.	05
	OR	
Q.6B	Write common causes of accidents during handling of construction equipments.	05

Q.7A	Calculate the volume per minute of pumping equipment. Given that Number of cylinders (N) = 2, Coefficient (C) = 0.95, Length of stroke (l) = 30 cm, Diameter of cylinder (d) = 10 cm, Number of strokes per minute (n) = 25.	05
Q.7B	Write short note on Tractor and its type.	05
	OR	
Q.7B	Write short note on Motor Grader and Gradeability.	05

Q.8A	Describe Bulldozer & its uses. Write advantages of crawler mounted and wheel mounted bulldozers.	10
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Q.9A	Describe foundation treatment for dams, Consolidation grouting, Curtain grouting, and grouting equipments. Draw neat sketches also.	10
Q.9B	Write short note on drilling, types of drill, selection of drilling method & equipment and purpose for drilling holes in earth.	10
	OR	
Q.9B	Write short note on blasting of rocks, important terminology, spacing and monitoring of seismic effect of blasting.	10