# BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI 

Course No: CE F242
Duration: 180 Mins.

Construction Planning \& Technology
Comprehensive Examination

Date: 09-05-2018
Max. Marks: 100

Question paper is in two parts: Part ' $A$ ' and Part ' $B$ '. Part ' $A$ ' is closed book and to be answered in the same sheet and to be submitted. Part ' $B$ ' is open book. You can access the books and notes after submission of Part 'A'.

## PART 'B'

Q. 1 (a) Prepare the detailed estimate of road side masonry dust bin given in Figure below (All dimensions are in cm until specified otherwise).


General specifications are:
(i) Concrete in foundation and under floor: 1:2:4 cement concrete (B) (ii) Masonry work: All masonry work in 1st class brick work in 1:6 cement and local sand mortar (C), (iii) Flooring: 40 mm thick 1:2:4 cement concrete (D), (iv) Plastering cement sand mortar in proportion of 1:6 all around (inside and outside walls) (E) and (v) Finishing: Two coats snowmen painting on outside walls (F), (vi) Iron door gauge 18, (G). Adopt suitable rates from 'Schedule of Rates' as given in book (increase the rate by 400\%) or CPWD rates.
(b) Calculate the duration of each activity, and prepare A-O-N for one dustbin.
(c) Prepare LoB if 1000 dustbins are to be completed within 3 months. Assume 8 working hours in a day; 5 working days in a week and 4 weeks in a month. Buffer: 2 days. Take Man hours for different activities as Earthwork A : 10, B:25, C : 40, D : 20, E : 80, F: 40, and G: 20. B, C... are mentioned in part (a) above.
Q. 2 Find the values of the plot of land ( $\mathrm{A} \& B$ ), of which the lengths of different sides are given in the Figure. Assume the following: On a 6 m wide road, the front belt depth is 24 M and the value (for Plot A) of front belt land is Rs. 600/- square metre. On 12 m wide road, the front belt depth is 30 M and the value (for Plot A) of front belt land is Rs. 800/- square metre. Calculate the cost of plots $A$ and $B$ which are facing each other. (Hint: take the comparative rates depending on comparative importance)

(25)
Q. 3 Workout the cost of a plot of land measuring 60000sqm which is now ripe for building development when the average market rate for small building plots is Rs. 10000/ - per sqm and the cost of development for roadways, water supply, sewerage system, electricity and all other engineering works as 120per sqm., which is spent in following manner: first year: 10\%; second year15\%; third year: 20\%, and fourth year remaining. The developed plots are sold at the beginning of next year. (i.e. plots developed in first year will be sold at the beginning of second year etc.). Assuming the rate of interest as 7\%.

