

**FACULTY OF APPLIED DESIGN & ENGINEERING
(SCHOOL OF BUILT ENVIRONMENT)**

SAMPLE QUESTIONS

1. A gang of four men is engaged in placing a concrete slab which is to receive a floor covering. The operation consists of mixing concrete, transporting by mono-rail, depositing, spreading, vibrating level and power floating.

A time study has been carried out and gives the information as shown in Table 1.

- (a)
 - (i) Prepare a multiple activity chart to record the present method of working.
 - (ii) Develop an improved method and multiple activity Chart indicating the cycle time.
- (b) Explain the significance of multiple activity charts within the planning process.

Table 1

Labour/Plant Requirements	Description of Element	Time in Standard Minutes
Loader	Load hopper with aggregates	1.50
Mixer driver	Add cement	0.25
Mixer driver	Raise hopper to mixer, discharge contents and add water	0.50
Mixer	Mix concrete after adding water	2.0
Mixer driver	Lower hopper to ground level	0.25
Mixer driver	Discharge concrete into mono-rail truck	0.50
Mono-rail truck	Deliver concrete and tip	0.75
Mono-rail truck	Return to mixer	0.50
Placers (2 No.)	Spread and level concrete with shovel, vibrate with poker vibrator and float with power float	6.00

2. Discuss the application of activity sampling to the construction industry and describe, using an example, the processes involved.
3. Discuss factors which affect the productivity of operatives working on construction sites.
4. Describe the relationships between productivity, work measurement and incentives within the building industry.