PGDM – 2013-15

PRODUCTIVITY MANAGEMENT:

PGDM - 342/IB-311

TRIMESTER – III, END TERM EXAMINATION, April 2014

TIME ALLOWED : 2 Hrs. 30 Min   MAX. MARKS: 50

Instruction: Students are required to write Roll No. on each page of the Answer Paper. Writing anything except the Roll No. will be treated as **Unfair Means**. In case of rough work, please use answer sheet.

Section A: Short Questions   Marks: 15

Answer any three out of the five questions in this section. Each question carries 5 marks.

A1:   Define the terms "Productivity", Partial Productivity and Total Productivity with one example each.

A2:   What are the different resources used by an organization, and suggest units for productivity measurement for each of them.

A3:   What is an Operation flow process chart. What are the signs we use while mapping a process. Define each one of them.

A4:   Write the names of four types of flow process charts and their uses.

A5:   What is "Time Study" and how is it used for improving Productivity.

Section B: Long Questions   Marks: 20

Answer any two out of the three questions in this section. Each question carries 10 marks.

B1:   How do we carry out a Critical Analysis? Write down the five areas for critical analysis and how do we question or challenge them.

B2:   Write down one management tool or technique each for improvement of Productivity of (a) Labour, (b) Machinery, (c) Material and (d) Energy.

B3:   Define Method Study and explain the seven steps of Method Study with an example.

Case Study

Gwalior region in MP, like many other geographic regions, has a cluster of stone slabs manufacturing units. The cluster has about 60 units within a radius of about 50 kms. encompassing the small towns of Banmore, Purani Chawni, Morena, Dhaulpur etc.

The stone slabs have found their utility in large scale construction activity. The process involves quarrying large stone blocks, Slicing the slabs on a endless blade cutting machine, and finally sizing them as per specifications and offerings of te company. The finished slabs are also graded based on the quality of the stone and geological structure.

While everything seemed to be going smooth for the industry at large, during a detailed chat with the owners of the unit, the owners of the units expressed that they in fact have a serious problem with the disposal of the stone dust, which is a by product of the process of cutting stone blocks in to slabs.

He also narrated his experiences with the neighbouring population's resistance and the directives from the state Pollution control boards, threatening that the units may be asked to close down if they don't find a permanent solution to the stone dust. He also informed that in the previous year alone they had spent about Rs. 4,00,000 (Rs. Four Lacs) for clearing the space occupied by earlier dust. However, all they could do was just to shift the location of the heaps.

This prompted a visit to the area surrounding the unit. It revealed that the whole neighbourhood was strewn with fine greyish powder, all around the unit and spreading about.

However, the present process used for cutting stone slabs will always generate the dust.

The cutting of slabs from the stone block involves use of a 10 mm thick circular saw. However, due to the misalignment of the saw pulley, there is a sideways movement of the saw, and the unit looses about 12 mm width in each slab cut. The slabs are normally of 50 mm thickness. Pl. see the picture below. It shows a typical cross section of the stone block, from which the slabs of standard sizes are to be cut.

In this configuration, the hatched area indicates the waste portion of the slab section, which comes out as a process waste. Its cross section area is 1.5 Sq. Meters.

The rest of the cross section gives 36 standard size slabs of 50 mm thickness and 3,800 mm length, assuming that the depth of the stone block has flat surfaces.

However, as the cutting process is such that the cutter results in wasting an average of 12 mm of material in each cut, this results in to 37 cuts in the stone block.