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**Directorate of Online Education**

**INTERNAL ASSIGNMENT SET-II**

**SESSION FEB/MAR 2021**

**PROGRAMME MASTER OF COMPUTER APPLICATION (MCA)**

**SEMESTER I**

**COURSE CODE & NAME DCA6105 - COMPUTER ARCHITECTURE**

**CREDITS 4**

**NUMBER OF ASSIGNMENTS,**

**CREDITS &MARKS 02**

**4 Credits, 30 Marks each**

**Question 1 What do you understand by pipelining? Discuss with an example the different hazards possible with pipelining?**

**Answer** An implementation technique by which the execution of multiple instructions can be overlapped is called *pipelining*. This pipeline technique splits up the sequential process of an instruction cycle into sub-processes that operates concurrently in separate segments. As you know computer processors can execute millions of instructions per second. At the time one instruction is getting processed, the following one in line also gets processed within the same time, and so on. A pipeline permits multiple instructions to get executed at the same time. Without a pipeline, every instruction has to wait for

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**Question 2 What do you understand by multithreading? Discuss the principles of multithreading?**

**Answer Multithreading:** Multithreading is another method for reducing or hiding latency. Multithreading is a process which is very common in modern computers. Basically it is multi-programming in which several processes can run at the same time. If we want the switching process to be speedy then we have to provide each process a memory map and hardware registers. Now if one process blocks while waiting for remote data, then

the switching can

**Question 3 Discuss the various types of Vector Instructions for a register- register vector processor.**

**Answer Types of Vector Instructions:** The various types of vector instructions for a register-register vector processor are:

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