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**Roll No. L1F18BSCS0311**

**Section - F**

**Question 1**



|  |  |  |  |
| --- | --- | --- | --- |
| **Start (par/d.t/f.t)** | **End (par/d.t/f.t)** | **Type** | **Reason** |
| **A(B/9/10)** | **C(G/3/18)** | **B** | **Moving from shorter time interval to larger time interval** |
| **B(E/6/11)** | **A(B/9/10)** | **T** | **The starting vertex is the parent of ending vertex, so a new vertex is discovered** |
| **B(E/6/11)** | **C(G/3/18)** | **B** | **Moving from shorter time interval to larger time interval** |
| **B(E/6/11)** | **F(C/4/17)** | **B** | **Moving from shorter time interval to larger time interval** |
| **B(E/6/11)** | **G(I/2/19)** | **B** | **Moving from shorter time interval to larger time interval** |
| **B(E/6/11)** | **H(B/7/8)** | **T** | **The starting vertex is the parent of ending vertex, so a new vertex is discovered** |
| **C(G/3/18)** | **D(J/14/15)** | **F** | **Moving from larger time interval to shorter time interval** |
| **C(G/3/18)** | **F(C/4/17)** | **T** | **The starting vertex is the parent of ending vertex, so a new vertex is discovered** |
| **D(J/14/15)** | **B(E/6/11)** | **C** | **Both the vertices have disjoint time intervals.** |
| **D(J/14/15)** | **E(F/5/12)** | **C** | **Both the vertices have disjoint time intervals.** |
| **D(J/14/15)** | **I(Nil/1/20)** | **B** | **Moving from shorter time interval to larger time interval** |
| **E(F/5/12)** | **B(E/6/11)** | **T** | **The starting vertex is the parent of ending vertex, so a new vertex is discovered** |
| **E(F/5/12)** | **H(B/7/8)** | **F** | **Moving from larger time interval to shorter time interval** |
| **F(C/4/17)** | **A(B/9/10)** | **F** | **Moving from larger time interval to shorter time interval** |
| **F(C/4/17)** | **E(F/5/12)** | **T** | **The starting vertex is the parent of ending vertex, so a new vertex is discovered** |
| **F(C/4/17)** | **J(F/13/16)** | **T** | **The starting vertex is the parent of ending vertex, so a new vertex is discovered** |
| **G(I/2/19)** | **A(B/9/10)** | **F** | **Moving from larger time interval to shorter time interval** |
| **G(I/2/19)** | **C(G/3/18)** | **T** | **The starting vertex is the parent of ending vertex, so a new vertex is discovered** |
| **H(B/7/8)** | **C(G/3/18)** | **B** | **Moving from shorter time interval to larger time interval** |
| **H(B/7/8)** | **G(I/2/19)** | **B** | **Moving from shorter time interval to larger time interval** |
| **H(B/7/8)** | **I(Nil/1/20)** | **B** | **Moving from shorter time interval to larger time interval** |
| **I(Nil/1/20)** | **G(I/2/19)** | **T** | **The starting vertex is the parent of ending vertex, so a new vertex is discovered** |
| **I(Nil/1/20)** | **J(F/13/16)** | **F** | **Moving from larger time interval to shorter time interval** |
| **J(F/13/16)** | **D(J/14/15)** | **T** | **The starting vertex is the parent of ending vertex, so a new vertex is discovered** |

**Question 2  
Following is the detail of a project’s different phases and their dependencies. You have to show all the project stages in topological order (dependency order – that what phase can be started before the other phases). Draw the following graph as you like and then show your work to find the topological order. Edges will be designed from dependent towards the phase.**

|  |  |
| --- | --- |
| **Phase** | **Dependent upon** |
| **P4** | **P2, P7, P6** |
| **P7** | **P8, P1** |
| **P5** | **P8, P3** |
| **P8** | **P9** |
| **P6** | **P9, P2** |
| **P2** | **P3, P5** |
| **P1** |  |
| **P9** |  |
| **P3** | **P1** |



* It will take 1 week for P1 and P9 to finish.
* It will take 1 week for P3 and P8 to complete after P1 and P9 are completed.
* It will take 1 week for P5 and P7 to complete after P1, P3 and P8are completed.
* It will take 1 week to complete P2 as it is dependent upon P3 and P5.
* It will take 1-week to complete P6 as it is dependent upon P2 and P9.
* Lastly, it will take 1 week to complete P4 as it relies on P2, P7 and P6.

Total time will be 6 weeks.