Fast**National University of Computer & Emerging Sciences, Karachi  
Quiz – III (Spring-2023)**

**Dated: 5 – May - 2023**

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| Student: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Section: \_\_\_\_\_\_\_\_\_ |

**Q1:** A bicycle company is getting its assembly section ready to dispatch a greater number of bicycles to the target market after the Eid holidays. Assembling a bicycle involves several steps to be done by different people. These activities are given below:

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| --- | --- | --- |
| **Activity Name** | **Description** | **Time (minutes)** |
| A | Frame preparation | 9 |
| B | Mounting & alignment of front wheel | 7 |
| C | Mounting & alignment of rear wheel | 7 |
| D | Attaching chain wheel to crank | 2 |
| E | Attaching chain wheel & crank to the frame | 2 |
| F | Mounting right pedal | 8 |
| G | Mounting left pedal | 8 |
| H | Saddle attachment | 10 |
| I | Stickers’ placement | 5 |

Since the above given tasks are dependent, so the order of doing tasks is given below:

* C must be After A
* B must start after A
* D must be after A
* E must be after D
* F must be after D & E
* G must be after D & E
* H must be after A, B, C, D, E, F & G
* Sticker’s placement is done once all the previous tasks are completed

Now answer the following questions:

1. Draw the activity network diagram **[1]**
2. Mention the early start time, early finish time, late start time & late finish time for each task. **[4]**
3. Identify all possible paths and highlight the critical paths in network **[2]**
4. Calculate the total slack and free slack values**.[2]**
5. What will be the impact on overall project time, if the Saddle attachment task got delayed by 15 minutes? Discuss with proper reasoning**.[1]**