**CS587**

**Midterm Exam**

**St. Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Last Name, First Name**

**St. ID:**

***10 points for every question***

**Q1**. Explain how the budgeted cost work scheduled (BCWS) and budgeted cost work performed (BCWP) can be used to predict the estimated completion date of the software project.

**Q2**. From the perspective of software project management, software testing is only one method to ensure the quality of the software produced, Explain.

**Q3**. Which one is better a network diagram with few Zero-Slack activities or many Zero-Slack activities?

**Q4**. Explain how the requirements may become a risk factor for the software project plan?

**Q5**. Who controls the design review meeting? What are the different metrics collected in the review meeting?

**Q6**. Can reviews and inspections tasks replace/eliminate the testing tasks? Explain.

**Q7**. For a software development organization that is CMM level-5, which method can be used for estimating activity duration: historical data or three-point technique? Explain.

**Q8**. What are the possible actions that the project manager and review moderator might consider to take for the following outcomes of design document review?

1. Rework and defect fixes turned out to require more than 58% of the original effort to write the design.
2. Rework and defect fixes turned out to require 20% of the original effort to write the design.
3. Rework and defect fixes turned out to require 2% of the original effort to write the design.

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**Q9**. Consider the following milestone table, what is the milestone trend chart that the following project follows? Name and draw the milestone trend chart.

|  |  |  |
| --- | --- | --- |
| **Milestone** | **Expected Delivery** | **Actual delivery** |
| Project Planning | 1st month | early 1 week |
| Lab/Environment Installation | 2nd month | early 2 week |
| Requirement Phase | 3rd month | early 1 week |
| Analysis phase | 4th month | early 2 week |
| Design phase | 5th month | early 3 weeks |
| Coding | 6th month | early 3 weeks |
| Testing | 7th month | early 3 weeks |
| Documentation | 8th month | early 3 weeks |
| Installation/Training | 9th month | early 3 weeks |

**Q10.** Consider the following data; calculate the effort and duration required for every task, considering the following constraints:

1. An artifact is produced by only one author
2. Every review “meeting” task shall be carried by 5 engineers including the author
3. Every review “preparation” task shall be carried by 4 engineers excluding the author
4. Any “Rework” task can be executed by the author of the original task

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Tasks** | **Amount of Work** | **Productivity** | **Effort** | **Duration** |
| Requirements |  |  |  |  |
| Write Requirements Document | 100 pages | 1 page/Hour |  |  |
| Review Requirements Document |  |  |  |  |
| Review Preparation for Req. Doc. |  | 5 pages/Hour |  |  |
| Review Meeting |  | 10 pages/Hour |  |  |
| Rework | 10 defects | 1 defect/Hour |  |  |
|  |  |  |  |  |
| Design |  |  |  |  |
| Write Design Document | 80 pages | 1 page/Hour |  |  |
| Review Design Document |  |  |  |  |
| Preparation for Design Document |  | 5 pages/Hour |  |  |
| Review Meeting |  | 10 pages/Hour |  |  |
| Rework | 23 defects | 1 defect/Hour |  |  |
|  |  |  |  |  |
| Testing |  |  |  |  |
| Write Test Plan | 48 pages | 2 pages/Hour |  |  |
| Review Test Plan |  |  |  |  |
| Preparation for Test Plan |  | 5 pages/Hour |  |  |
| Review Meeting |  | 10 pages/Hour |  |  |
| Rework | 25 defects | 5 defects/Hour |  |  |