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# King Saud University

**Information Systems Department**

Project Management (IS-351)

# Homework # 3 (ANSWERS)

|  |  |
| --- | --- |
| **Student Name:-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **Section:-\_\_\_\_\_\_\_** |
| **SID No.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **Student Class No.: \_\_\_\_\_\_\_\_** |
| **Total Marks:- 10** | **Marks Awarded:\_\_\_\_\_\_\_\_\_\_** |

=========================================================================

**Question 1:** Using the formulas given in table-1, if needed, solve the given problem (2 points)

Table-1:

|  |  |
| --- | --- |
| Planned value ( PV ) |  |
| Actual Cost ( AC ) |  |
| Earned value ( EV ) | EV = PV up to date \* percent completed |
| Cost Variance ( CV ) | CV = EV - AC |
| Schedule variance ( SV ) | SV = EV - PV |
| Cost Performance Index ( CPI ) | CPI = EV / AC |
| Schedule Performance Index ( SPI ) | SPI = EV / PV |
| Estimate at Completion (EAC) | EAC = BAC / CPI (for cost) |
| Estimated time for project completion | Scheduled Time of project / SPI |

**The problem:**

**Given for a (7 months) project, the following data:**

**PV = $ 24,000**

**EV = $21,000**

**AC = $20,000**

**BAC = $100,000**

**1. a) How is this project performing? (0.25 point)**

**[a]** This project is ***under budgeted*** & ***behind schedule*** .

[b] This project is ***under budgeted*** & ***ahead of schedule***.

[c] This project is ***over budgeted*** & ***behind schedule*.**

**[d]** This project is ***over budgeted*** & ***ahead of schedule*.**

**Answer: Circle the correct choice**

**The Correct Choice is**

|  |  |  |  |
| --- | --- | --- | --- |
| ***[a]*** | **[b]** | **[c]** | **[d]** |

1. **b) Calculate the value of CV (0.25 point)**

**CV = EV - AC = 21,000 -20,000 = $ 1000.**

1. **c) Calculate the value of SV (0.25 point)**

**SV = EV – PV = 21,000 - 24,000 = $ - 3,000**

1. **d) Calculate the value of CPI (0.25 point)**

**CPI = EV/AC = 21,000/20,000 = 21/20 > 1🡪 under budgeted**

1. **e) Calculate the value of SPI (0.25 point)**

**SPI = EV / PV = 21,000 / 24,000 = 21 /24 = 7/8 < 1 ->behind schedule.**

**1. f) The estimated time to complete the project: (0.25 point)**

**[a] *6 months***

[b] ***7 months***

[c] ***8 months***

**[d]** ***None of the above***

**Answer: Circle the correct choice**

**The Correct Choice is**

|  |  |  |  |
| --- | --- | --- | --- |
| **[a]** | **[b]** | ***[c]*** | **[d]** |

**1. g) Performing the work of this project (0.25 point)**

**[a]** costs more than what was planned because CV is a positive number.

[b] costs less than what was planned because CV is a positive number.

[c] costs exactly as planned because CV is equal to zero**.**

**[d]** None of the above**.**

**Answer: Circle the correct choice**

**The Correct Choice is**

|  |  |  |  |
| --- | --- | --- | --- |
| **[a]** | ***[b]*** | **[c]** | **[d]** |

**1. h) Performing the work of this project (0.25 point)**

**[a]** took less time than what was planned because SV is a negative number.

[b] took longer than what was planned because SV is a positive number.

[c] took exactly as planned because SV is equal to zero**.**

**[d]** None of the above**.**

**Answer: Circle the correct choice**

**The Correct Choice is**

|  |  |  |  |
| --- | --- | --- | --- |
| **[a]** | **[b]** | **[c]** | ***[d]*** |

**Question 2:** Read each of the following statements, then fill in the entries of table -2 by writing (true) or (false) in the entries provided. **(3 points)**

**Table-2:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Statement** | **Statement a)** | **Statement b)** | **Statement c)** | **Statement**  **d)** | **Statement**  **e)** | **Statement**  **f)** |
| **ANSWER** | ***true*** | ***true*** | ***true*** | ***false*** | ***false*** | ***false*** |

1. **The ISO definition of quality is the totality of characteristics of an entity that bear**

**on its ability to satisfy stated or implied needs.**

1. **Pareto Analysis is sometimes referred to as the 80-20 rule, meaning that 80 percent of problems are often due to 20 percent of the causes.**
2. **The normal distribution is a bell-shaped curve that is symmetrical about the mean (average value) of the population.**
3. **User acceptance testing occurs between unit and system testing to test functionally grouped components.**
4. **Integration testing is done to test each individual component (often a program) to**

**ensure it is as defect-free as possible.**

1. **A unit test is an independent test performed by end users prior to accepting the**

**delivered system.**

**Question 3:** Fill in the blanks by choosing a word from the words listed in the entries of table -3. **(4 points)**

**Table-3:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **intrinsic** | **coercive** | **WBS** | **adjourning** | **acquiring** | **installation** | **integration** | **system** |
| **prior** | **unit** | **data** | **ISO 9002** | **managing** | **leveling** | **incentives** | **penalty** |

1. ***Intrinsic*** motivation causes people to participate in an activity for their own enjoyment..
2. Extrinsic motivation causes people to do something for a reward or to avoid a ***penalty***.
3. ***Coercive*** power involves using punishment, threats or other negative approaches to get people to do things they do not want to do.
4. Reward power involves using ***incentives*** to induce people to do things.
5. A responsibility assignment matrix (RAM) is a matrix that maps the work of the project as described in the ***WBS*** to the people responsible for performing the work as described in the organizational breakdown structure (OBS).
6. Developing a Project team requires five stages the last of which is ***adjourning*** the team after successfully completing the work.
7. Resource loading and Resource ***leveling*** are important concepts in project human resource management.
8. Human resource management includes the following four processes: Human resource planning, ***acquiring*** the project team, developing the project team, and ***managing*** the project team.
9. ***ISO 9002*** applies to organizations who do not design products but are only involved in production.
10. ISO 9003 applies to organizations involved only in ***installation*** and testing of the products.
11. During software development the only raw material consumed is ***data***.
12. A ***unit*** test is done to test each individual component (often a program) to ensure it is as defect-free as possible.
13. ***Integration*** testing occurs between unit and system testing to test functionally grouped components.
14. ***System*** testing tests the entire system as one entity.
15. User acceptance testing is an independent test performed by end users ***prior*** to accepting the delivered system.

**Question 4:** Define, RAM (Responsibility Assignment Matrix)? **(1 point)**

1. **ANSWER:** **Responsibility Assignment Matrix (RAM) is a matrix that maps the work of the project as described in the work breakdown structure (WBS) to the people responsible for performing the work as described in the organizational breakdown structure (OBS).**

|  |  |  |  |
| --- | --- | --- | --- |
| Q1 / 2 pts | Q2 / 3 pts | Q3 / pts | Q4 / 1 pt |
| [ / 2 ] | [ / 3 ] | [ / 4 ] | [ / 1 ] |

|  |  |
| --- | --- |
| Mark out of [10] | Mark out of [1.25] |
|  |  |