



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (*EXTERNAL*)

Academic Year 2004/2005 – 2nd Year Examination – Semester 4

IT4202 – Software Project Management
Part 1 - Multiple Choice Question Paper

13th August, 2005
(ONE HOUR)

Important Instructions:

- The duration of the paper is **1 (one) hour**.
- The medium of instruction and questions is English.
- The paper has **25** questions and **07** pages.
- All questions are of the MCQ (Multiple Choice Questions) type.
- All questions should be answered.
- Each question will have 5 (five) choices with one or more correct answers.
- All questions will carry equal marks.
- There will be a penalty for incorrect responses to discourage guessing.
- The mark given for a question will vary from -1 (*All the incorrect choices are marked & no correct choices are marked*) to +1 (*All the correct choices are marked & no incorrect choices are marked*).
- Answers should be marked on the special answer sheet provided.
- Note that questions appear on both sides of the paper.
If a page is not printed, please inform the supervisor immediately.
- Mark the correct choices on the question paper first and then transfer them to the given answer sheet which will be machine marked. **Please completely read and follow the instructions given on the other side of the answer sheet before you shade your correct choices.**

1) Effective project managers

- (a) lead by example.
- (b) should never be technically competent.
- (c) are not decisive.
- (d) are visionaries.
- (e) are good motivators, communicators, supports team members and stand up to upper management where necessary.

2) Which of the following is/are true with regard to project evaluation?

- (a) A project must be evaluated **only** on economic grounds.
- (b) Economic assessment involves the identification of all costs and income over the lifetime of the system.
- (c) Money received in the future is worth more than the same amount of money in hand now.
- (d) Discounted cash flow techniques may be used to evaluate the present value of future cash flows.
- (e) Cost-benefit analysis techniques can be used to choose between alternative strategies.

Questions 3 and 4 are based on the following scenario:

Two projects need to be evaluated to select one for implementation. Year-based cash flow forecasts (in Rupees) of the two projects are as follows:

Year	Project 1	Project 2
0	-200,000	-1,000,000
1	50,000	500,000
2	50,000	500,000
3	160,000	600,000

3) Which of the following is/are true?

- (a) Net profit of Project 1 is Rs.60,000 while the net profit of Project 2 is Rs.600,000.
- (b) Net profit of Project 1 is Rs.160,000 while the net profit of Project 2 is Rs.600,000.
- (c) Project 2 has the shorter pay back period.
- (d) In general, pay back period can be used as the sole basis to make a decision on a project selection.
- (e) If two projects have the same net profit, then one with the shorter pay back period may be chosen for implementation.

4) Which of the following is/are true?

- (a) Return on investment for Projects 1 and 2 are 10% and 20% respectively.
- (b) Return on investments for Projects 1 and 2 are 26.7% and 20% respectively.
- (c) Project 2 must be selected for implementation without any other consideration.
- (d) Initial investment of Project 2 could be a concern.
- (e) Sometimes many smaller projects which are more profitable could be undertaken with a big investment as is required for Project 2.

5) Which of the following is/are true?

- (a) The six software quality characteristics identified by ISO 9126 are: functionality, reliability, usability, efficiency, maintainability and portability.
- (b) ISO 9000 describes the fundamental features of a QMS.
- (c) "Preoccupation with a quality certification might distract one from the real problem of producing quality products".
- (d) CMM can be used to place organizations producing software at one of five levels of project maturity.
- (e) Testing should be done during every phase of the product development life-cycle and not just before a product is handed over to the customer.

6) The most likely outputs of the cost control process are

- (a) revised cost estimates.
- (b) budget updates.
- (c) corrective actions.
- (d) acceptance decisions.
- (e) network models.

7) Control of changes and documentation ought to be the responsibility of the *configuration librarian*. His duties include

- (a) the identification of all items which are subject to change control.
- (b) making improvements to documents which have been produced by others without consulting them.
- (c) the establishment and maintenance of a central repository of the master copies of all project documentation and software products.
- (d) the maintenance of records of who has access to which library items and the status of each library item (e.g., whether under development, under test or released).
- (e) the setting-up and running of a formal set of procedures to deal with changes.

8) The following two groups **A** and **B** are connected to cash flow forecasting that could be used in project evaluation. A matching of the items in group **A** with appropriate ones in group **B** is required.

A

- a1. Net profit
- a2. Payback
- a3. Return on investment
- a4. Present value
- a5. Internal rate of return

B

- b1. period is the time taken to pay back the initial investment.
- b2. attempts to provide a profitability measure as a percentage return that is directly comparable with interest rates.
- b3. $= (\text{value in year } t) / (1+r)^t$ where r is the discount rate and t is the number of years into the future that the cash flow occurs.
- b4. is the difference between total cost and total income over the life of the project.
- b5. $= ((\text{average annual profit})/(\text{total investment})) \times 100$

A correct matching is:

- (a) a1-b1,a2-b2,a3-b3,a4-b4,a5-b5
- (b) a1-b5,a2-b4,a3-b3,a4-b2,a5-b1
- (c) a1-b4,a2-b1,a3-b5,a4-b3,a5-b2
- (d) a1-b3,a2-b4,a3-b5,a4-b1,a5-b2
- (e) a1-b2,a2-b3,a3-b1,a4-b4,a5-b5

9) Which of the following is/are **not** true with regard to selecting projects for implementation from a set of candidate projects?

- (a) It is usually good to start all projects which project managers come across.
- (b) It is good to select projects based on our broad organizational needs.
- (c) Net present value, return on investment and payback analysis are some of the techniques which we can use for selecting projects.
- (d) A weighted scoring model can also be used for selecting a suitable project.
- (e) Gantt charts are usually used after projects have been selected.

10) Which of the following is/are true with regard to risk management?

- (a) Some hazards can be prevented from occurring through good planning.
- (b) It is generally not beneficial to invest time on making a risk management plan for the organization.
- (c) The impact of some risks can be transferred away from the project by getting insurance cover.
- (d) Some risks are not preventable and contingency plans will need to be drawn up to reduce the impact if the hazard occurs.
- (e) The importance of each risk (*risk value*) can be computed using the formula:
$$\text{risk value} = \text{risk likelihood} * \text{risk impact}$$

11) Which of the following is/are true?

- (a) Work breakdown structure is not a required input to the cost budgeting process.
- (b) Project cost budgeting involves allocating project cost estimates to individual work items.
- (c) It is generally a waste to keep an allowance for pay increases such as overtime pay in the budgeted amount for compensation.
- (d) It is a good idea to document assumptions and explanations when preparing cost estimates and cost budgets.
- (e) Cost-baseline is a time-phased budget that project managers can use to measure cost performance.

12) Work Breakdown Structure

- (a) is often depicted as a task-oriented family tree of activities.
- (b) is not organized around project products or phases.
- (c) helps improve communication.
- (d) also displays dependencies between project tasks.
- (e) improves accuracy of cost and duration estimates.

13) Which of the following rules is/are true with regard to activity-on-node networks?

- (a) A project network can have one or more start nodes.
- (b) A project network can have one or more finish nodes.
- (c) A node has a duration.
- (d) Links represent relationships between activities.
- (e) Time moves from right to left.

14) Which of the following is/are true with regard to scheduling using network models?

- (a) A forward pass is carried out to calculate the earliest date on which each activity may be started.
- (b) A forward pass is carried out to calculate the earliest date on which each activity may be completed.
- (c) A backward pass is carried out to calculate the earliest date on which each activity may be started.
- (d) A backward pass is carried out to calculate the earliest date on which each activity may be completed.
- (e) In calculating the latest dates, we assume that the latest finish date for the project is the same as the earliest finish date.

- 15) Which of the following is/are **not** true regarding network models?
- (a) The difference between an activity's earliest start date and the latest start date is known as the *float* of that activity.
 - (b) The difference between an activity's earliest finish date and the latest finish date is known as the *float* of that activity.
 - (c) Any activity with a float of zero is not critical.
 - (d) Any delay in carrying out a critical activity will delay the completion date of the project.
 - (e) Critical path is the path through the network joining all the critical activities.
- 16) Which of the following is/are true with regard to network models?
- (a) Project duration may be shortened by reducing non-critical activity durations.
 - (b) Project duration may be shortened by reducing critical activity durations.
 - (c) Shortening an activity duration may be achieved by applying more resources to the activity.
 - (d) As activity durations are reduced, the project manager need not check for the emergence of new critical paths which may demand attention.
 - (e) Project durations can also be reduced through better work methods and increasing the amount of parallelism in the network.
- 17) Which of the following is/are true with regard to contracts?
- (a) Deciding what to procure and what to outsource is part of procurement planning.
 - (b) Alternative proposals need to be evaluated by comparing proposals only over the acquisition costs rather than over the whole lifetime of the project.
 - (c) A contract will only place obligations on the supplier and not on the customer.
 - (d) Stages to be followed in contract placement are requirement analysis, evaluation plan, invitation to tender and evaluation of proposals.
 - (e) It is easier to gain concessions from a supplier before a contract is signed than after.
- 18) Which of the following is/are true with regard to contract types?
- (a) The buyer incurs little risk in a Fixed Price Contract.
 - (b) There are no threats to system quality in Fixed Price Contracts.
 - (c) It is not easy to change requirements in a Time and Materials contract.
 - (d) In a Time and Materials contract, the customer has to absorb all risks associated with poorly defined requirements.
 - (e) In a Time and Materials contract, the lack of price pressure can allow better quality software to be produced.
- 19) Which of the following is/are **not** true with regard to risk management?
- (a) Managing risk involves two strategies: reducing the likelihood of occurrence and drawing up contingency plans to deal with the risk if it occurs.
 - (b) Prioritizing the risks so that the most important ones can receive the greatest attention is beneficial.
 - (c) In risk reduction, it is important to estimate the costs of taking action with the expected benefits of reducing the risk and to direct our efforts to where they will have the greatest effect.
 - (d) Risk Reduction Leverage is a metric that can be used to check whether it is worthwhile to reduce a particular risk.
 - (e) Risk management costs should never be included in the original cost estimates of a project.

- 20) Group **A** below lists some risks which could occur in a project, and Group **B** lists some risk reduction strategies.

A:

A1: Unrealistic time and cost estimates
A2: Developing the wrong software functions
A3: Development is technically too difficult.
A4: Shortfalls in externally supplied components
A5: Late changes to requirements

B:

B1: Prototyping
B2: Using multiple estimation techniques
B3: Contractual agreements
B4: Cost-benefit analysis
B5: User involvement

Correct matching for items in group **A** with items in group **B** is/are:

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|--------------|--------------|--------------|
| (a) A1:B2 | (b) A2:B1,B5 | (c) A3:B1,B3 |
| (d) A4:B2,B5 | (e) A5:B1,B5 | |

- 21) Which of the following is/are true with regard to Earned Value Analysis?

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| (a) Budgeted Cost of Work Scheduled (BCWS) is the portion of the approved total cost estimate planned to be spent on an activity during a given time period. |
| (b) Actual Cost of Work Performed (ACWP) is the total costs incurred in accomplishing work on an activity during a given period. |
| (c) Budgeted Cost of Work Performed (BCWP) is the percentage of work actually completed multiplied by the planned cost. |
| (d) BCWP is not the same as Earned Value. |
| (e) $\text{Cost Variance} = \text{BCWP} - \text{BCWS}$ and $\text{Schedule Variance} = \text{BCWP} - \text{ACWP}$. |

- 22) Which of the following is a / are good habit(s) to make people and teams become more effective?

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| (a) Being proactive (anticipate and plan for problems and inevitable changes in projects) |
| (b) Seeking to be understood first and then to understand |
| (c) Beginning with the end in mind |
| (d) Putting first things first |
| (e) Thinking win/win (parties in potential conflict work together to develop a solution that will make them all winners) |

- 23) Which of the following is/are **not** true with regard to project monitoring and control?

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| (a) Checkpoints may be regular (e.g., monthly) and/or tied to specific events such as the production of a deliverable. |
| (b) Activities that are too long may be subdivided to make them more controllable. |
| (c) Monitoring the execution of the plan is not as important as the initial planning. |
| (d) Both cost and elapsed time need to be monitored. |
| (e) Delayed projects can often be brought back on track by shortening activity times on the critical path. |

- 24) Which of the following is/are **not** true with regard to improving time spent at meetings which we conduct?

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| (a) Determine if a meeting can be avoided. |
| (b) Define the purpose and intended outcome of the meeting. |
| (c) Determine who should attend the meeting. |
| (d) Provide an agenda to participants just before the meeting is about to begin. |
| (e) Stick to the agenda, watch the time, encourage participation, summarize key issues and clarify decisions and action items. |

25) Which of the following is/are true with regard to Microsoft Project 2003?

- (a) Project Standard 2003 is a desktop program for individual users while Microsoft Office Enterprise Project Management Solution forms a business solution for organizations.
- (b) It does not have the feature to immediately assess the impact of task and resource changes to the overall project schedule.
- (c) Project Standard 2003 provides shared workspaces which enable users to store Microsoft Project files and other documents centrally.
- (d) It has the smart tags feature that offer timely and relevant assistance as one works by alerting him to alternatives when he makes changes to his plan.
- (e) It provides many view reports which include information on critical tasks, non-started tasks, tasks-in-progress, completed tasks, cash flow, budget, earned value, to-do list, resource usage and staff task assignments.
