University of Sargodha

Department of Computer Science and Information Technology

Mid Term Spring 2020 Subject: Software Project Management Due: 15 Apr 20

Class: Paper: Subjective Marks**: 30**

**Note:** Attempt all Questions. Justification should be in your own words, any copy paste attempt would be evaluated and treated accordingly.

**Q.1**

**Can the following be considered as a project: [6+4]**

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Yes / No** | **Reasoning** |
| Sending a robot vehicle on Mars to search for signs of life. |  |  |
| Installing a new version of word processing package in an organization. |  |  |
| Writing an operating system for a computer. |  |  |

ii. **Would an operating system be categorized as information system or an embedded system? Justify your answer.**

**Q.2 [5]**

**New Horizon is a higher education institute which used to be managed by a local government authority but has now become autonomous. Its payroll, however, is still administered by local authority and pay slips and other outputs are produced in the local authority’s computer center. The authority now charged the college for this service. The college management are of the opinion that it would be cheaper to obtain an “off-the shelf” package (by customizing some features if needed) and do the payroll processing themselves.**

1. What are the main steps the project manager would take to conduct the feasibility study?
2. Would this be an objective driven project or product driven? Justify the response.
3. Identify the stakeholders in college payroll project?

**Q.3 [3]**

**A travel agency needs software for automating its book-keeping (accounts) activities. The set of activities to be automated are rather simple and are at present being carried out manually. The travel agency has indicated that it is unsure about the type of user interface which would be suitable for its employees and its customers. Would it be proper for a development team to use the spiral model for developing this software? Justify your reason.**

**Q4. [6]**

**Your company is planning to invest three potential portfolio of projects.**

**Project A: Mission Mars : Investment =**  £ **8,000.**

**Project B: Writing an operating system : Investment =**  £ **8,000**

**Project C: Develop knowledge based system to treat epidemics like COVID 19 : Investment =**  £ **10,000.**

**Projected cash flows are given. Calculate the Net Present value for each of the project A, B and C with discount rate of 15%. Any projects that displayed positive NPV would be considered for selection. Which project/projects are worth taking?**

|  |  |
| --- | --- |
| **Year** | Cash Flow Values (**£**) |
|  | **Project A** | **Project B** | **Project C** |
| 1 |  **£ 4,000**  |  **£ 1,000**  |  **£ 2,000**  |
| 2 |  **£ 4,000**  |  **£ 2,000**  |  **£ 2,000**  |
| 3 |  **£ 2,000**  |  **£ 4,000**  |  **£ 6,000**  |
| 4 |  **£ 1,000**  |  **£ 3,000**  |  **£ 2,000**  |
| 5 |  **£ 500**  |  **£ 9,000**  |  **£ 2,000**  |
| 6 |  **£ 500**  | **-£ 6,000**  |  **£ 2,000**  |

**Q5. [3+3]**

**You are trying to decide whether to lease or buy an item for your project. The daily lease cost is $120. To purchase the item, the investment cost is $1,000 and the daily maintenance cost is $20. How long will it take for the lease cost to be the same as the purchase cost?**

**ii.**

**At what stage of the system development project (for example feasibility study, requirement analysis, etc) would a prototype be useful as means of reducing the following uncertainties?**

|  |  |
| --- | --- |
| **Scenario** | **System development stage** |
| A computer system is to support sales office staff taking phone calls from members of the public enquiring about motor insurance and giving quotation over phone. |  |
| There is a proposal that the senior managers of an insurance company have personal access to management information through an executive information system installed on personal computers located on their desks. Such a system would be costly to setup and there is some doubt about whether the managers would actually use the system. |  |