Section A

Question A.1. PM Skills

You overhear an experienced project manager say that her selling skills are often more useful in her job than her technical abilities.
Why might selling skills be more useful than technical skills alone to a project manager? (2 marks)
In what ways might selling skills be used by a project manager? (5 marks)

Key points:

Importance of selling skills vs technical abilities

- Technical abilities are useful (often essential) in enabling PM to understand the project scope and tasks, the team would generally include technical specialists to actually undertake the work. PM can't usually be expert in all technical aspects of the project.
- However, the PM is responsible for ensuring that resources are available and that things get done, but rarely has power or authority to insist / impose and has to rely on selling, negotiating and persuading others.

Use of selling skills
PM uses selling skills to gain and maintain support from key customers / stakeholders throughout the life of the project. Selling is an ongoing process:

- Senior management - get project approved and resources allocated. Selling the benefits of undertaking the project. Selling / promoting project to ensure continuing support during the project.
- Persuading others in the organisation (e.g. functional / line managers) to release the resources when needed (people, time, equipment etc.). Selling them the benefits to them of doing this.
- Getting team members' commitment - selling to them the benefits of being involved, and motivating them to give their best.
- Get the best out of suppliers / contractors; letter of the contract often of limited use – may need goodwill, co-operation and flexibility, projects rarely run smoothly.
- Other stakeholders, e.g. end users, local community – need to sell benefits to those affected by the project.

Other good examples accepted, but students must cover both internal and external stakeholders to score fully.

Question A.2. Project Team

A colleague tells you that the only worthwhile project team structure is 'pure project' (task force), and that organisations should accommodate all of their projects in this way. Do you agree with this view? Explain your reasons. (7 marks)

Key points:

There are certainly many advantages of the pure project team structure, particularly in terms of managing the project:

- The team can develop a highly effective communication system based on mutual respect and understanding of each other's responsibilities.
- Develop strong team spirit.
- PM has authority over resources.
- Client / project focus – no distraction from competing priorities or loyalties. Faster response time.

However, pure project is not always appropriate:

- Cost (more expensive), which needs to be justified by the size, complexity or urgency of the project concerned. A small or lower priority project may not warrant this approach – an uneconomic use of resources.
- Organisation may not have the resources to manage all projects in this way, particularly if a small or medium-sized business or an organisation doing multiple projects, where skills need to be available to more than one project.
- The nature of the project may require different skills at different points in time or the close involvement of operational divisions (and a matrix might be more appropriate).

Conclude disagree as a 'one size fits all' principle, although in some circumstances (e.g. major or critical project) your colleague is probably right.

Other good points for / against the assertion accepted. Arguments 'against' should focus on the *rationale* for selecting a particular type of team structure, and not the potential problems of 'pure project' that have to be managed by the PM.

Question A.3. Success Criteria.

Against what criteria would a project team judge the success of a project? (1 mark)
*Briefly state **two** ways in which the sponsor / client's view of success might, ultimately, differ from the criteria in (a) (2 marks)*
Give examples of different success criteria for a range of different stakeholders on a project of your choice (real-world or generic example). (4 marks)

Key Points:

Team criteria = Time, Cost, Performance.

- Sponsor / client may differ due to priorities may be in one corner (e.g. time), and he / she may be willing to sacrifice another objective (e.g cost) for, e.g. faster time-to-market.
- Sponsor / client will also want to ensure that the project delivers the required business benefit – which might only be measurable over time (e.g. Concorde, British Library etc.)

Other good points accepted.

Different stakeholders' view of success for a new IT system might be:

- End users – easy to use; robust and reliable.
- IT department – state of the art technology; ease of upgrade.
- Finance department – low cost.
- Senior management – improved customer service or end user productivity.
- External contractor – deliver to time, cost and performance / quality. (make a profit and win future business).

All good examples of a project with views of different stakeholders accepted. Students may draw on course materials or what they have read in texts, journals, the press etc.

Question A.4. Project Roles

Describe the roles of each of the following in a project:

a) Project sponsor (3 marks)
b) Project champion (2 marks)
c) Project support office (2 marks)

Key Points

Sponsor:
- The sponsor is the individual or body (internal or external) for whom the project is being undertaken and is the provider for funds for the project.
- The sponsor is the owner of the business case, and is responsible for ensuring that the project is beneficial to the business and continues to be a viable proposition.
- The sponsor approves the project definition, plan and outputs and resolves issues raised by Pm & team for decision.

Champion:
- A champion is someone who acts as an advocate for the project within the organisation, and helps to garner support and defends the projects in difficult times.
- The champion may (or may not) be the sponsor, but is normally someone with access to and influence with senior management.

Project Support Office:
- The project support office provides administrative support, generally managing project documentation – central files, maintaining documentation, issuing reports and updates, facilitating the change control process.

Question A.5. Leadership

You have just recruited team members for a project that you have been asked to lead. Briefly outline the stages of team development (Tuckman et al), and the actions you might need to take at each stage to ensure that team members work together effectively throughout the life of the project. (7 marks)

Key Points:

- **Forming** (Undeveloped). Start-up; uncertainty about roles, responsibilities and each other; need to facilitate 'getting to know you'; team-building, which may include informal, social as well as project-based activities.
- **Storming** (Experimenting). Feelings emerge; inner conflicts; teams can get stuck in this phase; need to encourage constructive disagreement and ensure decisions are made and that the team moves forward.
- **Norming** (Consolidating). Ground rules, procedures and team norms become established; relations based on mutual trust and respect; need to maintain challenge and momentum to avoid complacency and groupthink.
- **Performing** (Mature). High level of delegation; participative; committed; conflict handled constructively; beware complacency and projectitis; continue to monitor team effectiveness, maintain challenge and momentum.
- **Mourning** (Winding Down / Letting Go). 'Demob' happy or unhappy; sense of loss; reduced commitment; may need start-up techniques to shore up motivation; celebrate achievement.

Question A.6. Decision-Making

You have been in your job as a project manager for a few months and have an idea for a new product that your company could develop. A friend suggests that you all you need to do is pass your written proposal to your boss, and he will arrange the necessary approvals and funding.
Do you agree with this advice? Briefly explain your reasons. (7 marks)

Key Points:

- Individuals in organisations generally don't have the sole authority to approve projects or major investments. Organisation will generally have a decision-making process, which will need to be followed.
- Sensible to get support of the boss but need to understand who else to involve (who can influence decision, help or block you).
- Proposal should be the outcome of discussion with others in the organisation, specifically those affected by or expected to supply resources to the project.
- A proposal with strong support of others is more likely to gain approval (easier to implement).
- Also need to understand decision-making process, formal as well as informal channels. Ensure proposal in required format, with any necessary signatures, and follow submission procedure.
- Criteria – understand what the organisation values; a project that doesn't fit with organisation's objectives and priorities is unlikely to be approved.

Conclusion: Agree that there is a need to gain the support of the boss and that he / she needs to see the written proposal, but disagree that this is sufficient to gain the necessary support and authorisation to proceed.

All good points accepted. Students should cover the need to understand process, criteria and consultation with others to score fully.

Section C

Question C.1 Quality

You overhear two colleagues debating the merits of developing a Quality Plan for a project. One colleague argues that if an organisation already has a Quality Management System in place then this is all that is needed to manage quality in any project that it undertakes. Do you agree with this view? Explain your reasons. (9 marks)

Key points:

A project quality plan must certainly align with the organisation's QMS. The QMS provides a framework for the project's quality plan, and should be considered the base reference source. However the QMS alone will be insufficient to manage the quality of any given project for the following reasons:

- The QMS is often focused on operations (stable activities), and the processes will not be wholly applicable to the dynamic, more risky nature of projects.
- Projects are, by their nature, one-off and unique – and the QMS is unlikely to cover every requirement and eventuality for any given project.
- Some organisations have project management processes within their QMS; however, these are often high-level and will often need to be adapted / tailored for any given project. The specific processes to be followed by the project will need to be stated in the project's quality plan to ensure that everyone knows what is to be done and how.
- The project's quality plan must reflect the specific objectives and success criteria of the project – as defined in the business case. This will not be captured explicitly in the QMS framework.
- The quality plan must also set out how the product's (deliverables) quality will be achieved and demonstrated. Validation (building the right deliverables) and verification (building the deliverables right). Whilst there may be a generic process in the QMS for product quality assurance – the unique nature of the deliverables will require a project quality plan which sets out, for example, the test regime for the project in question.
- Reliance on the QMS alone will result in ambiguity – its application within the context of the project will be open to differences of interpretation. This will result in quality problems if different people have different views on what should be done and how.

Conclusion:
The QMS provides the basic framework for the project's quality plan (which must be compatible with the QMS), but the QMS alone is unlikely to meet the specific (and unique) needs of any given project.

Other good points accepted, but students are expected to highlight the more generic nature of the QMS versus the one-off, dynamic nature of projects, and thus the need for a project quality plan.

C.2. Earned Value

A project to build a product prototype is scheduled to take 12 weeks. The following table shows the project's progress at the end of Week 8 (costs are in man-hours).

Task	***Budget***	***Planned cost (BCWS)***	***% Complete***	***Actual cost (ACWP)***
Casing	*160*	*160*	*100%*	*180*
Mechanical	*240*	*190*	*80%*	*180*
Electronics	*640*	*540*	*40%*	*480*
Integration	*300*	*150*	*15%*	*70*
Testing	*200*	*50*	*5%*	*25*

a) What is the project's budget at completion? (1 mark)
b) Calculate the earned value for each task. What is the earned value of the project to date? (5 marks)
c) Calculate the cost performance index (CPI) and schedule performance index (SPI Cost) for the project. (2 marks)
d) What does the data in (c) tell you about the progress of the project to date? (2 marks)
e) State <u>two</u> benefits and <u>two</u> potential limitations of earned value analysis (4 marks)

Answers:

(a) <u>Budget at completion:</u>

160 + 240 + 640 + 300 + 200 = 1,540

(b) <u>Earned value:</u>

Task	**Budget (BAC)**		**% Complete**		**Earned Value**
Casing	160	x	100%	=	160
Mechanical	240	x	80%	=	192
Electronics	640	x	40%	=	256
Integration	300	x	15%	=	45
Testing	200	x	5%	=	10
Tot (EV Project)					663

(c) <u>Indices:</u>

CPI:
EV / ACWP = 663 / 935 = 0.71

SPI (cost):
EV / BCWS = 663 / 1090 = 0.61

(d) Project progress

The CPI and SPI respectively show that the project is currently over budget and running late. The schedule performance (time) is worse than the cost (CPI) performance.

(e) Benefits & limitations of EVA

Select 2 benefits and 2 limitations from the following:

Benefits:
- Integrates cost and time to monitor project progress.
- Compares what was planned to what has actually been achieved to date, in terms of the value of the work achieved (not the actual cost of achieving it, which can give a misleading view of progress).
- Can give early warning of time / cost problems so that PM can take corrective action.
- It can improve the profitability of organisations that use it continuously.

Potential limitations:
- Only useful where plans are robust, or where there is confidence in the details of the plan (e.g. construction, but not scientific research).
- % task complete estimates may be wrong.
- Initial base cost estimates may be wrong. Analysis then undertaken using a flawed base.
- Doesn't capture all potential sources of cost over-run (e.g. large rise in materials prices).

Other relevant benefits / limitations accepted.

C.3. Risk

a) Briefly compare the advantages and disadvantages of Brainstorming and Document Analysis as tools for risk identification. (3 marks)
b) A risk identification process has revealed a risk that an off-the-shelf product component may be hard to obtain due to the possibility that the supplier may wish to discontinue making it. This is believed to have a high probability. What other information about this risk must now be obtained? (3 marks)
c) Suggest three possible mitigations for this risk. (3 marks)

Key points:

(a)

Brainstorming
Advantages:
- Reveals wide-ranging risks
- Helpful for team motivation (can involve all staff)

Disadvantages:
- Potentially time-consuming
- Requires strong facilitation
- Issues uncovered may not be specific risks.

Document Analysis
Advantages:
- Specific to project.
- Risks are quite specific.

Disadvantages
- Depends on relevance, scope & maturity of existing documents.

(b)

The extent of use of the component in the product (and hence the impact or effect of the risk on the project objectives) and the likely time or phase of occurrence.

(c)

Choose three from:

- Replace the component with an equivalent.
- Eliminate it from the design.
- Seek an alternative supplier.
- Make the component in-house.
- Place a contract to protect the supply.

Other relevant mitigation strategies accepted.