THE BCS PROFESSIONAL EXAMINATIONS
BCS HIGHER EDUCATION QUALIFICATIONS
BCS level 5 Diploma in IT
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EXAMINERS' REPORT
IT Project Management

Section A

Question A1

Establishing a business case

a) What are the reasons for producing a business case? **(6 marks)**

b) Describe FIVE components of a business case **(10 marks)**

c) The business case must be agreed and signed off in the project initiation stage.
Give TWO situations where the business can be used later in the project.
(6 marks)

d) Who is responsible for establishing and monitoring the business case of a project?
(3 marks)

Answer Pointers

a) The reason for producing a business case is to answer three basic questions, which are asked at different times:

- is the project worth starting? (during project initiation). This considers feasibility, that is, can the project be done? Often technical considerations come into this. It also considers viability, that is whether the project will its benefits exceed its cost, whether the benefits will arrive in time, and whether there are not better things that the organisation can spend money upon.
- does the project remain worth doing? (at key points in the execution of the project)
- was it worth doing? (during the evaluation).

Marks were awarded even if candidates did not frame their answers around these questions but covered such things as viability and post project review.

(3 x 2 marks)

b) Components could have included:

- Rationale,
- Alternatives/options
- A description of the chosen solution
- Costs/benefits
- Constraints
- Risks
- Resources
- Success criteria

(5 x 2 marks)

c) Examples include:

- Making a decision at the end of stage if there has been a lot of change
- Checking that the business case is still valid if there are changes to the external environment
- Checking that the business case is still valid when new risks emerge. It could be used to evaluate an exception plan
- If significant or frequent requests for change are made, it can be used to decide whether to accept or reject a proposed change.

(2 x 3 marks each)

d) Project Owner / Project Board definitely not Project Manager

Examiner's Comments

This was the question in Section A that was answered by the fewest number of candidates but was passed by the most. It was broken into four to parts each with a different degree of challenge.

a) Many candidates did not focus on the purpose but instead provided contents. This meant that many candidates had similar answers for parts a) and b)

b) Many candidates answered this part of the question well.

c) This proved difficult for many candidates as it required them to apply knowledge of the purpose of the business case to the project lifecycle. Those that scored well were able to connect the business case to key events on a project that were either scheduled or were triggered by special circumstances..

b) This question was not answered well. Many candidates answered that was the project manager was solely responsible and others provided long lists of possible people that effectively meant everyone on the project was responsible. It is clear that the reason for starting and continuing with a project rests with the project owner.

Question A2

Project Management Soft skills

a) Good IT project managers are expected to possess certain skills (things they can do) or attributes (characteristics they possess). Describe FOUR skills or attributes of good IT project managers. **(8 marks)**

b) IT project managers adopt a number of management styles. Choose one and describe its main features. **(10 marks)**

c) An IT project has been running well for 6 months. The IT project manager then notices a decrease in the efficiency and performance of the project team. Describe the steps they could take to deal with this situation. **(7 marks)**

Answer Pointers

a) A great deal has been written about this but it is anticipated that the responses can fit into the following categories

- Leadership, including representing the project in and outside the organisation
- People skills (including negotiation, delegation, motivation)
- Managing, including planning, controlling and monitoring
- Technical skills & knowledge

(4 x 2 marks)

b) This is not about motivation or team building (so there were no marks for Belbin) it is about management styles such as Lewin (directive - permissive and autocratic - democratic) or Blake/Mouton task/people orientation.

Example of Task v. People **(2 marks for each contrasting point made)**

Task	People
Focused on deadlines, achievement	Focused on individuals their needs
People have to conform to plans	People have career plans and development agendas
It is most suited when people are not good at delivering on time	It is good when people can be trusted to get on with work with low supervision
The team may suffer	The deadline may suffer
It may be less good in the long term as it can be demotivating	It could be good in the long term as company loyalty is developed and staff feel motivated
Relies on structures, process, job descriptions	Relies on trust, motivation, communication
Team leader facilitates the completion of work	Team leader facilitates open communication between colleagues

c)

- Identify any root causes - by observing or interviewing, check that there was really a dip in efficiency, how do you know this was a genuine dip in performance and not just an anomaly?

- Identify a range of possible solutions - rule out any exceptional conditions such as a bout of sickness or a public holiday

- Choose a course of action - having assessed the impact of this in terms of cost and delays. Sometimes it might be a quick solution, sometimes you may need to take time out to tackle deeper issues. It maybe that it is too expensive to fix.

- Implement - the chosen course of action and understand any possible negative impacts, will a pay rise for some cause disharmony for everyone else

- Evaluate - review the effect of the course of action on the efficiency, did it fix the problem identified

Not more than two marks for each point made under the headings above.

Examiner's Comments

This question was attempted by nearly all candidates at this sitting but was passed by less than a third.

a) Many candidates offered up lists of good qualities in a person such as politeness or good manners. Candidates should keep in mind those attributes which are either a) peculiar to the ITPM or which are b) essential to the ITPM.

b) This part of the question was answered least well. Very few candidates scored more than 25% of the marks available. Incorrect answers included answers based on Cost Management or on Motivational Styles. The few who did score well looked at either relationship management or a Task versus People focus.

c) Many candidates chose to talk about Tuckman but the question deliberately included a timeframe that would suggest the first two stages had been completed. There was also a rush to look at solutions but the question deliberately asked for a process - steps to be undertaken. Only two marks were awarded for the discussion of solutions while the remaining marks were awarded for the other parts of the process.

Question A3

Monitor and control project finances and quality

a) How is quality measured on a project? **(13 marks)**

b) "*If 50% of the deliverables of a project meet their quality standards then the project is 50% complete*."

i. Decide if this statement true or false and explain your choice.

ii. Identify important factors not mentioned in the statement that a project manager should consider when assessing how well a project is progressing.

(12 marks)

Answer Pointers

a) This was an intentionally broad ranging question which was designed to allow the candidate to demonstrate their knowledge of project quality issues.

- A good answer might start be separating out quality assurance (which can be measured through audit) with quality control (which can also be measured, for example through testing).

- There must be a set of quality expectations and also clearly defined criteria for measuring the individual quality of an item or component (again this can be measured). There must be an application of the criteria through tests or inspections to the item or component (which can be measured).

- Finally, there can be recognition of the usefulness to the customer of the finished system.

(Up to 3 marks for each of the above)

- Marks were also awarded to candidates who distinguished between product quality (cf ISO 9126) and process quality (cf ISO 15504 – adherence to a set of 'best practices').They might also explain how a development project is a chain of processes (e.g. specify/design/build) where intermediate products are passed between the sub-processes. A fault can enter the chain at any point, and once in will be passed on to the later stages. Intermediate products e.g. design documents can be assessed to see that they make a sound foundation for the later stages.

(2 marks)

- A very good candidate might identify different types of quality (e.g. usability, reliability, maintainability) and different types of measurement needed for each.

(2 marks)

b) This question is about trying to understand progress holistically. Progress can only be measured by adding in two extra dimensions, cost **(5 marks)** and time **(5 marks)**. A good answer will relate the amount of money spent to what has been achieved in terms of quality and will relate the time taken to achieve this level of quality. In both cases the idea of a baseline/budget should be considered. It is also expected that the remaining cost to finish and the remaining effort needed to finish should be considered.

These two items are closely linked and it is not the purpose of the marker to suggest a particular aspect of a candidates' answer needs to be in one part and not the other. In answering this question the following marks should be awarded regardless of whether they fall in i. or ii.

Things that might additionally appear in ii. which d not appear in i.include:

- are the deliverables within the baseline scope?
- are the deliverables crucial to the project or those on the critical path?
- is the first 50% the easiest 50% of the project in terms of complexity?
- has Earned Value Analysis been considered?
- what is the state of team morale, has the 50% been achieved but left a demoralised team?

Examiner's Comments

This was the question in Section A that was passed by the fewest number of candidates. Project quality is a frequent topic for examination papers and this questions was deliberately designed to give candidates every opportunity to demonstrate their knowledge of this subject. Although the question in (b), split into two sub-questions, the question was marked as a whole.

a) The majority of candidates were able to score some marks by separating quality assurance and quality control but some were demonstrate the higher knowledge needed to pass.

b) The majority of candidates answered 'yes' to this question with no recognition of the importance of understanding progress in relation to time and cost. Those that scored well also introduced factors such as scope and team morale.

Section B

Question B4

You work for a small organisation that has just set up an IT department in order to develop a new database system in-house. You have been appointed project manager.

a) Write a memorandum to the managing director explaining the need for:

i) change control

ii) configuration management

Highlight at least TWO benefits and ONE disadvantage of each.

(12 marks)

b) List SIX different roles that need to be carried out by people involved in handling and implementing a request for change within the proposed change control procedure. For each of these roles identify clearly their specific responsibilities relating to the request for change.

(9 marks)

c) Name and describe briefly the TWO major elements of a configuration management system.

(4 marks)

Answer Pointers

This answer was expected to be in memorandum format and up to two marks were deducted if this was not done.

Up to 3 marks were then awarded for a sensible and comprehensive definition and description of **change control**, with a further **mark each** for **2** clear benefits and **1** clear disadvantage

Typical benefits could be:

- Its use ensures that the full effects of a proposed change are considered by those in overall control of the project and its budget, together with
- the possible effect on other parts of the system, and
- whether there might then be a resultant increase in the project duration, or
- in the project cost.

Disadvantages could be:

- the bureaucracy involved, or
- the possible stifling of inventiveness.

Similarly up to 3 marks were awarded for a sensible and comprehensive definition and description of **configuration management.** This needed to make a clear distinction between **configuration management** and **change control**. It helps here to mention key features such as a baseline of accepted configuration items, status accounting, version control and item dependencies. Again a further **mark each** for **2** clear benefits and **1** clear disadvantage

Typical benefits here could be:

- ensuring that the consideration of possible effects on other parts of the system (within change control) is comprehensive and complete,
- making it easier to maintain a reliable record of development and progress,
- facilitating status control.

Disadvantages could be:

- the added bureaucracy (with additional staff often required).

This gives and overall total **3+3+3+3 = 12 marks (less up to 2 if not in memo format)**

b) The principal roles here, and their associated responsibilities, are likely to be:

project manager	coordinate and manage the handling of the request
requester (who could be a potential user or any member of the project team)	draw up change request
change manager/controller	record progress of the progress assign new version numbers (if it is accepted)
feasibility investigator	establish all dependent items establish and re-estimate effects of change (time and cost)
control board	consider and decide to accept/refuse
implementation group	make the required necessary changes to all affected items

Up to **5 marks** were awarded for a sensible list of key roles, which should include the requester and the decision-maker(s), with a further **4** for their responsibilities in relation to the overall change control process.

(Total 5 + 4 = 9 marks)

c) The major elements of a configuration management system elements are:
item identification, status accounting, configuration control

2 marks were awarded for naming 2 of these, plus 2 for sensible descriptions of each of those named. **(Total 2 + 2 = 4 marks)**

Examiner's Comments

This was by far the least popular of the questions in Section B, and it is disappointing to note that many of the answers then appeared to reflect a general lack of understanding of the concepts of, and the differences between, change control and configuration management as key tools in the management of IT systems development projects. These are both very well explained in Chapter 4 of the recommended course text.

Many of the answers omitted any valid definition or explanation of **configuration management** in particular, with very few candidates then attempting part c.

A significant number of candidates considered the implications to the business of implementing a new database system, with several answers then interpreting configuration management as a form of security or access control to the new database. Others considered it in relation to the configuration of the new hardware.

a) Many candidates did not answer in memorandum format, as requested in the question. This probably indicates the need to read the question fully before attempting to answer.

b) There was a tendency here to outline the actual workflow relating to the handling of a change request rather than concentrate on the roles of those handling the request. Very few candidates mentioned the key need to record any part of this workflow, from receipt to implementation.

c) This was straightforward "bookwork". Very few answers mentioned any of the elements of, for example, configuration item identification (such as dependencies on and from other configuration items – which is key to change control) or of status accounting.

Question B5

a) Identify and describe briefly THREE types of 'go-live' strategy that could be used on a project.

(9 marks)

b) Documentation is often overlooked at installation. List FOUR important documents that will be handed over at go-live.

(4 marks)

c) Before any system can go-live it must be acceptance tested by the users. List THREE different areas that are covered during acceptance testing.

(3 marks)

d) Describe THREE ways in which the success of a system can be measured after it has become operational.

(9 marks)

Answer Pointers

a) Acceptable ‘go-live’ strategies can include: “Big Bang”, phased functionality, incremental site roll-out (or other form of pilot implementation) and parallel running

3 marks were awarded for a clear identification and description of each selected strategy, giving a maximum of **9 marks**

b) Important documents that are handed over at go-live should include 4 of:

- Sign-off document
- Backout plans
- Support manuals
- Test plans
- Configuration Plans

Note that these documents are usually specific to go-live while although some other documents, such as programming standards or training materials, may be handed over at this point they could be handed over well in advance of go-live.

c) Areas covered by acceptance testing could include: performance, functionality, environmental, interface and possibly data integrity testing, but not unit testing or integration testing as these are tests carried out (by the development team) in advance of the acceptance testing (carried out by users or their representatives).

d) Valid measures here could be:

- the number of faults recorded - can be measured from day 1
- the number of user related errors - maybe as a result of training issues
- business benefits can be reviewed (usually as part of the Post Implementation review)
- did the new system have a negative effect on the infrastructure/ other systems?
- is the system running in accordance with SLA (Service Level Agreement) performance criteria?

Note that these measures refer to **system** success NOT **project** success (which are usually meeting time, cost, and quality objectives).

3 marks per measure identified and explained clearly, giving a **maximum of 9 marks**

Examiner's Comments

Many candidates answered part a (on go-live strategies) very well (with some developing their answer to discuss the advantages, disadvantage and risks of each approach – which was not requested specifically in the question). There were also some good answers to part b and part c, but in part b there was a tendency to list the various documents developed during the life of the project (such as the feasibility study and the statement of requirements – sometimes time sheets) instead of concentrating on those that would be handed over to the users at installation. A particular problem with part c was the tendency to list far more than the requested THREE acceptance test areas. In such instances, only the **first** three were considered. In the last part many candidates considered the measures of "project" success – NOT those of system success – or discussed system success in more general terms rather than identifying specific measures that might be used to assess this.

Question B6

Your company is expanding rapidly and has decided to buy in and install an off-the-shelf (O-T-S) ledger package to replace the existing manual system. This will need new equipment and network cabling throughout the offices. You are to manage this project. You have drawn up an outline project plan to include the following main tasks:

A.	Interview accounts staff, draw up and agree a list of main requirements	(6 weeks)
B.	Assess alternative O-T-S packages and select the most appropriate.	(6 weeks)
C.	Specify and order all the required new hardware and communications.	(3 weeks)
D.	Test and install all the new hardware and equipment.	(9 weeks)
E.	Modify and test the package software.	(15 weeks)
F	Install the package software	(1 week)
G	Specify & obtain the accounts data required to implement the system	(6 weeks)
H.	Draw up a training plan.	(3 weeks)
I	Train the users	(9 weeks)
J	Draw up an acceptance test plan test	(3 weeks)
K	Acceptance testing	(4 weeks)
L.	Load data and implement the new system.	(3 weeks)

a) Draw a work breakdown structure (WBS) diagram for the project, showing all the planned tasks. This WBS should contain at least two levels.

(4 marks)

b) Explain the main differences between this WBS and a product breakdown structure (PBS) diagram for the same project.

(3 marks)

c) The dependencies between the 10 tasks listed above are:

B depends on A
C, E, H and J all depend on B
D depends on C
F depends on D and E
G depends on E
I depends on H
K depends on F, I and J
L depends on G and K

Draw a full Gantt chart for the project, to show all dependencies, float and highlighting the critical path.

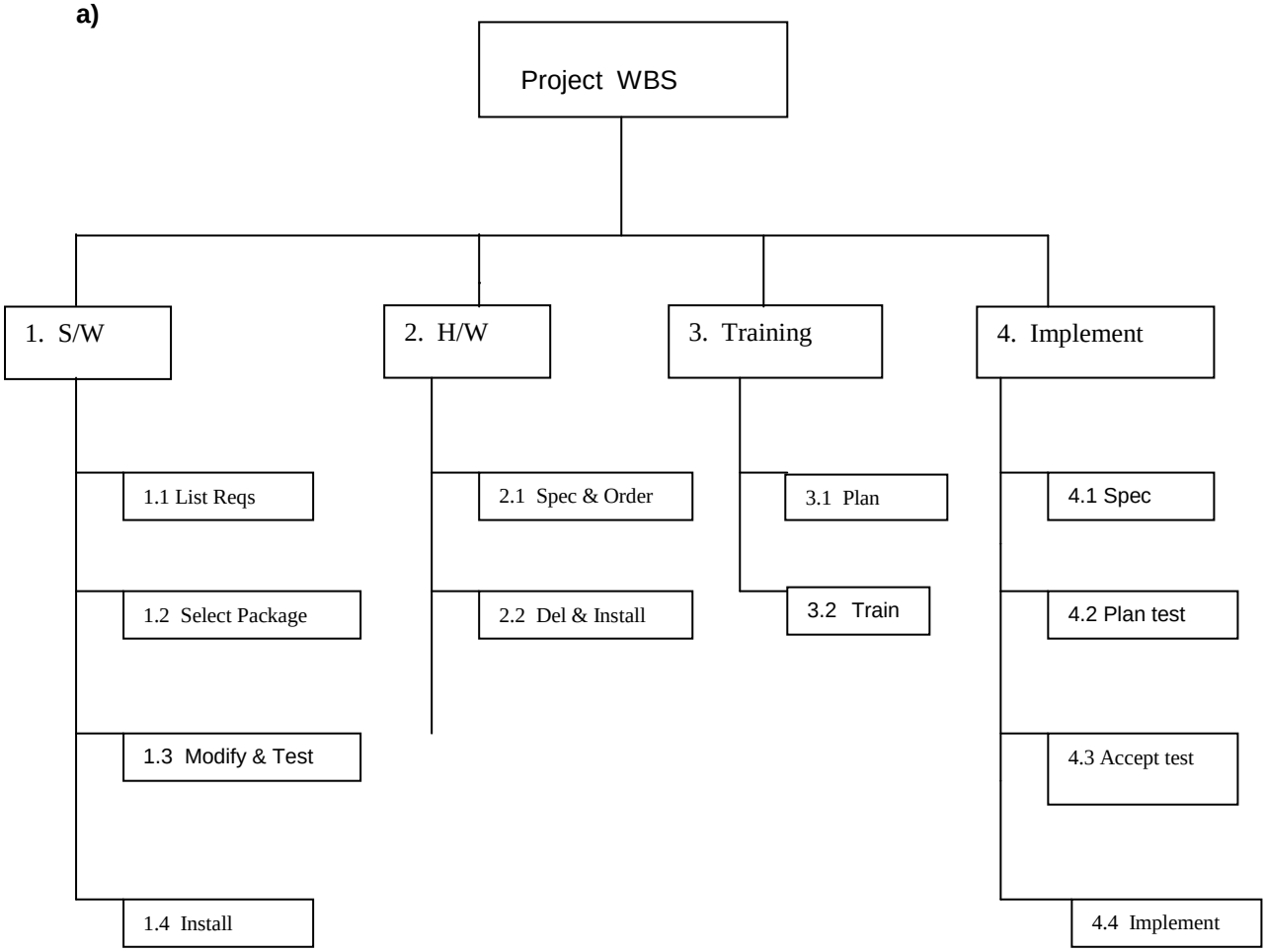
(10 marks)

d) At the end of week 24, tasks A, B, C, D, H, I and J have been completed on schedule, and task E is continuing on schedule. However it is realised that task F will now take 3 weeks, starting from week 28.
Re-draw the Gantt chart to reflect this progress to date, making any necessary changes, and highlight the critical path.

(8 marks)

Answer Pointers

a)



4 marks were awarded here (2 for a valid structure and 2 for task completeness) for a well-structured WBS diagram similar to that shown above, provided that all of the 12 task named in the question were included and they had been grouped sensibly within named topic groups (preferably, though not necessarily) with a numerical numbering structure.

b) **2 marks** awarded for straightforward definitions of WBS and PBS, for example,

WBS sets out in a structured diagram the tasks to be undertaken during the project

PBS sets out in a structured diagram the deliverables required during the progress of the project.

A further mark for valid comments or a specific explanation such as:

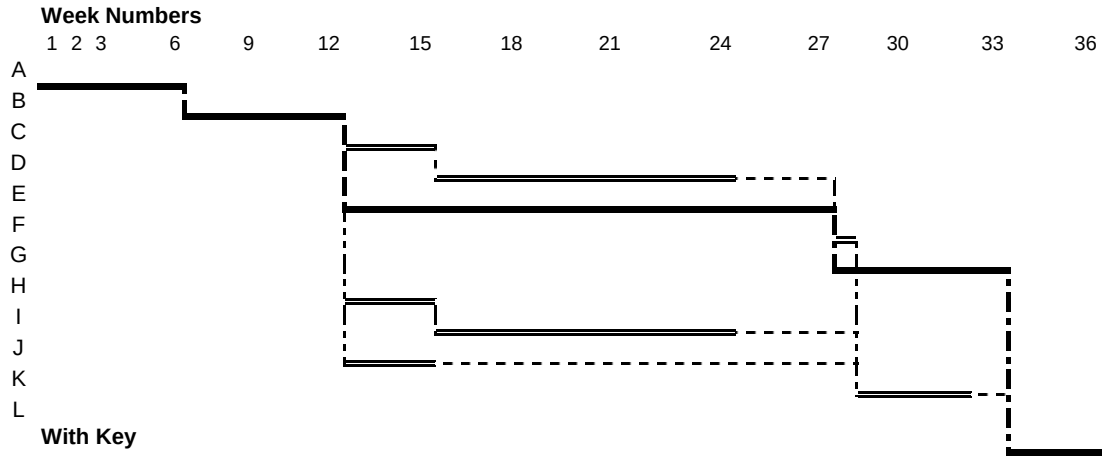
in task A, the task is to produce the list whereas the product (deliverable) is the list itself, noting that not every task will result in a deliverable (eg Task G)

(giving a total of 3 marks)

c) **10 marks** were awarded here for a Gantt chart similar to the example below, with up to **5** for a correct structure (to include clear task dependencies and a sensible, marked scale) a further **2 marks** for all floats being shown clearly on the chart and a further **2** for highlighting the (correct) critical path A, B, E, G, L.

d) **Up to 8 marks** for the re-drawn chart, to show clearly all progress to date as well as reflect the change to the duration of task F and its effect on the critical path (which changes to A, B, E, F, K, L).

Q1 c) **Gantt Chart, similar to**



With Key

Task
Float

Critical Path A, B, E, G, L Duration 36 weeks

c)	Marks for correct structure and dependencies	5
	All correct floats	3
	Correct critical path and duration	2
		10

d) **Marks for re-drawing the above**

All progress to date marked		3	
Change to duration of Task F		2	
3 weeks yet to complete on Task E		1	
New Critical Path	A, B, E, F, K	2	New duration 37 weeks
		8	

Examiner's Comments

This was the most popular question in Section B but many candidates started it by drawing an Activity-on-Node diagram based on the tasks set out in the question, even though this was not asked for at all in the question – and thus gained no marks. This does imply a lack of confidence in planning and drawing a Gantt chart and would probably also have led to a considerable loss of time in the examination. Disappointingly very few answers to part d displayed the progress to date in the re-drawn diagram. This facility to show progress to date is a key advantage of Gantt charts, especially when used for non-technical staff.

a) In several answers not all the listed tasks were shown, and in some additional tasks were added. The grouping of tasks clear logical groups was not always very sound.

b) Most candidates showed a good understanding of WBS diagrams in part a, but knowledge of product breakdown structures was far less good. Many answers concentrated on elements of the final product from the project, not the deliverables produced from specific tasks during the project. The underlying concept of a task deliverable was not well understood.

c) Many answers presented sound, well-structured and scaled Gantt charts. However quite often the tasks dependencies were not clear, especially those following non-critical tasks, with the consequent floats not being shown correctly and with an incorrect duration. These dependency lines should not continue down to the bottom axis of the diagram. The Critical Path was not always highlighted on the diagram and sometimes only the critical dependencies were highlighted – but not the tasks themselves.

d) Answers here were disappointing as hardly any made any attempt to reflect progress to date at the end of week 24. A number of tasks had been fully completed by then, with 3 weeks remaining on task E. There was also some confusion in interpreting the phrase “starting for week 28”. This would normally imply starting at the start of week 28, not at the start of week 29. In a Gantt chart the week number s on the time axis are intended to show the end of the week concerned.