

Pearson BTEC Level 3 Nationals Diploma, Extended Diploma

# Computing

## Unit 3: Planning and Management of Computing Projects

**Part A**

Window for supervised period:  
Monday 8 January 2018 – Friday 12 January 2018  
**Supervised hours: 3 hours**

Paper Reference  
**31770H**

**You must have:**  
Project\_Initiation\_Document.rtf

### Instructions

- **Part A** should be completed before attempting **Part B**.
- **Part A** and **Part B** tasks will be submitted together for each learner on completion of **Part B**.
- **Part A** contains material for the completion of the set task under supervised conditions.
- **Part A** should be undertaken in 3 hours during the assessment period of one week timetabled by Pearson.
- **Part A** is specific to each series and this material must only be issued to learners who have been entered to undertake the task on a date set by Pearson in the relevant series.
- **Part A** should be kept securely until the start of the 3-hour supervised assessment period.
- **Part B** materials for the set task will be issued prior to the start of the supervised assessment period according to the guidance in the specification.
- This booklet should not be returned to Pearson.
- Answer **all** activities.

### Information

- The total mark for this paper is 36.

Turn over ►

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### **Instructions to Teachers/Tutors and/or Invigilators**

This paper must be read in conjunction with the unit information in the specification and the *BTEC Nationals Information for Conducting External Assessments (ICEA)* document. See Pearson website for details.

The set task should be carried out under supervised conditions.

Electronic templates for use in Activity 1 will be provided for centres to download for learners use.

Work should be completed on a computer using the supplied documents or using project software as directed in each activity.

Internet access is not permitted.

All learner work must be completed independently and authenticated by the teacher/ tutor and/or invigilator before being submitted to Pearson.

Centres are free to arrange the single session 3-hour supervised assessment period how they wish provided it is completed within the one-week period scheduled by Pearson and according to the level of supervision specified.

Refer carefully to the instructions in this task booklet and the *Information for Conducting External Assessments (ICEA)* document to ensure that the assessment is supervised correctly.

An authentication statement will be required confirming that learner work has been completed as directed.

Learners must not bring anything into the supervised environment or take anything out.

Centres are responsible for putting in place appropriate checks to ensure that only permitted material is introduced into the supervised environment.

## Maintaining Security

- During any break, materials must be kept securely.
- User areas must only be accessible to the individual learners and to named members of staff.
- Access to the internet is not permitted.
- Learners can only access their work under supervision.
- Learners' work must be regularly backed up.
- Learners should save their work to their folder using the naming instructions indicated in each activity.
- Any work learners produce under supervision must be kept securely.
- Any materials being used by learners should be collected in at the end of the 3 hours, stored securely and handed back at the beginning of the Part B session.

## Outcomes for Submission

Each learner must create a folder to submit their work. Each folder should be named according to the following naming convention:

**[Centre #]\_[Registration number #]\_[surname]\_[first letter of first name]**

Example: Joshua Smith with registration number F180542 at centre 12345 would have a folder titled

12345\_F180542\_Smith\_J

Each learner will need to submit 4 PDF documents, within their folder, using the file names listed.

**Activity 1:** activity1PID\_[Registration number #]\_[surname]\_[first letter of first name]

**Activity 2a:** activity2gantt\_[Registration number #]\_[surname]\_[first letter of first name]

**Activity 2b:** activity2resource\_[Registration number #]\_[surname]\_[first letter of first name]

**Activity 2c:** activity2cost\_[Registration number #]\_[surname]\_[first letter of first name]

An authentication sheet must be completed by each learner and submitted with the final outcomes.

The work should be submitted no later than 19 January 2018.

## Instructions for Learners

Read the set task information carefully.

You must plan your time accordingly and be prepared to submit all the required evidence by the date specified.

You will complete this set task under supervision and your work will be kept securely at all times.

You may use a calculator and will have access to a computer. All activities must be completed using a computer.

There will be no access to the internet.

You must work independently throughout the supervised assessment period and should not share your work with other learners.

### Outcomes for Submission

You must create a folder to submit your work. Each folder should be named according to the following naming convention:

**[Centre #]\_[Registration number #]\_[surname]\_[first letter of first name]**

Example: Joshua Smith with registration number F180542 at centre 12345 would have a folder titled

12345\_ F180542\_ Smith\_ J

You will need to submit 4 PDF documents, within your folder, using the file names listed.

**Activity 1:** activity1PID\_[Registration number #]\_[surname]\_[first letter of first name]

**Activity 2a:** activity2gantt\_[Registration number #]\_[surname]\_[first letter of first name]

**Activity 2b:** activity2resource\_[Registration number #]\_[surname]\_[first letter of first name]

**Activity 2c:** activity2cost\_[Registration number #]\_[surname]\_[first letter of first name]

You must complete an authentication sheet before you hand your work into your teacher/tutor.

## Set Task Brief

You are asked to use your project planning and management understanding and skills within a given computing project scenario.

You work for a computer systems development company, Specialised Industrial Software Ltd. (SIS), specialising in manufacturing control systems.

Mutto pet food suppliers, who currently have four pet food production plants, have decided to install a Windows-based control system at one of the plants.

The company expects a substantial reduction in labour costs, due to the new system monitoring and controlling the production lines. This will enable the company to be much more competitive, which will lead to an increase in sales.

In Part A you are required to complete project documentation to initiate and launch the project. In Part B you will monitor and control the project's progress to its completion and closure.

**You are advised to spend 30 minutes reading the information, task instructions and the tasks you are to complete. You may make notes and/or highlight information to use in the completion of your project documents.**

### Information

Brenda, the owner of SIS, has directed you to manage this project. To help you plan the project, she has given you this information:

- The control software will be provided free of charge
- The upgrade to the control hardware will be offered at an introductory price of £4,500
- A server for the new system will be required at a cost of £940.

Mutto will require staff to be trained in the use of the new system:

- Six people will attend the 'Basic level', three will attend 'Intermediate level' and two will attend the 'Advanced level' course.

Brenda is also offering this training to Mutto:

- Two day 'Basic level' course at £200 per person
- Three day 'Intermediate level' course at £280 per person
- Three day 'Advanced level' course at £320 per person.

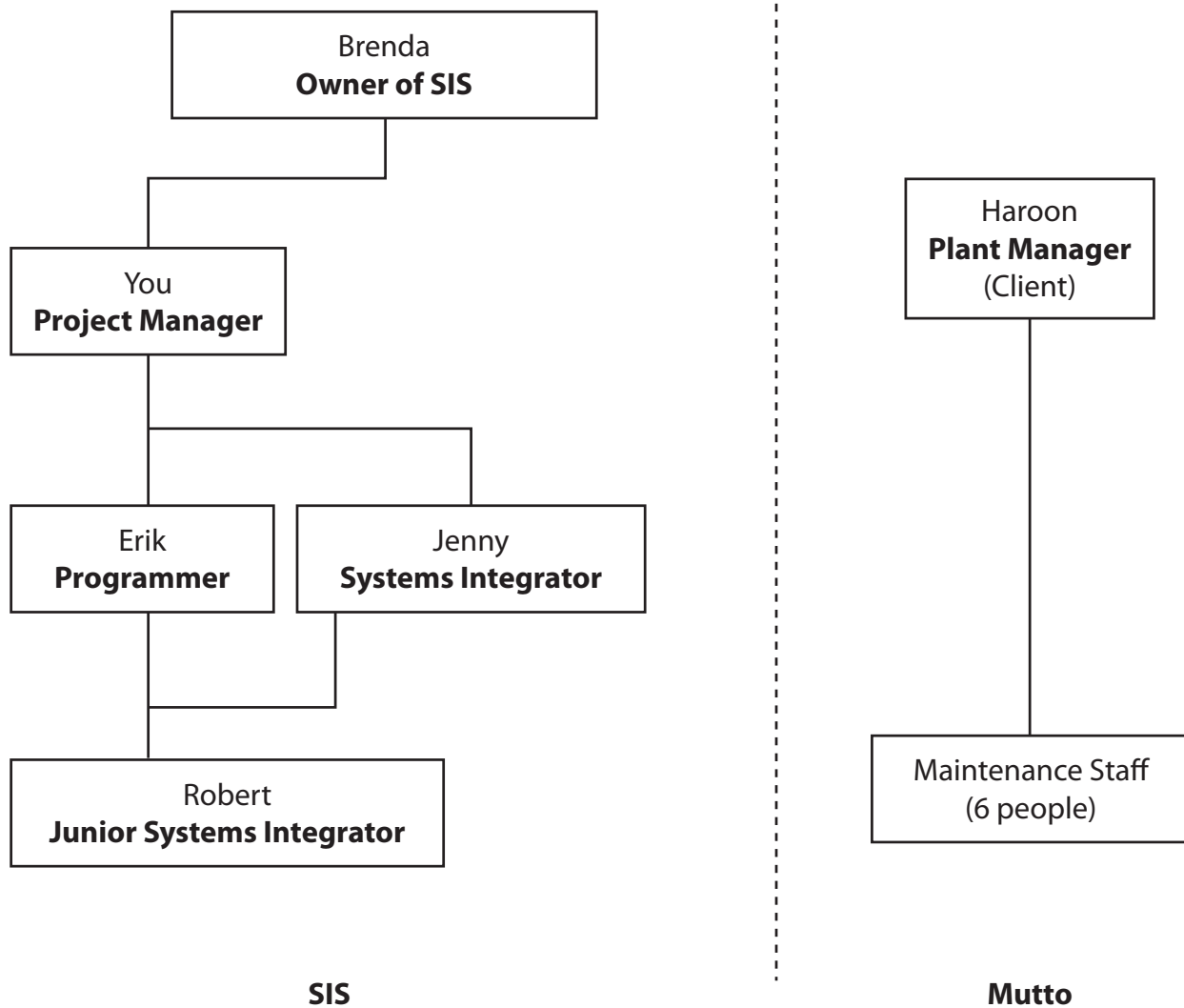
The integration of the new control system can be broken down into these key activities:

- Analysis of the current system
- Designing of the new control system
- Constructing the new control system
- Testing the new control system
- Implementation and changeover to the new control system
- Monitoring the new control system for one month
- Handover.

Brenda has done a function point analysis and has provided this information:

- Development of inputs (12 general function points)
- Development of processes, scripts etc. (10 general function points)
- Development of outputs such as reports (16 complex function points).

### SIS and Mutto organisational structures



All staff working on the project will work seven hours per day for five days per week.

SIS will charge Mutto £20 per hour for your services whilst managing the project.

Jenny (Systems Integrator) will complete the analysis and design of the new system. She can also complete general function point, complex function point and testing work.

- Analysis and design will take her 12 days in total
- General function point work will take her four hours per point
- Complex function point work will take her six hours per point
- Her rate of pay for the project will be £18 per hour

Erik (Programmer) can complete general function point, complex function point and testing work.

- General function point work will take him five hours per point
- Complex function point work will take him seven hours per point
- His rate of pay for the project will be £16 per hour

Robert (Junior Systems Integrator) can complete function point and testing work. He will need six hours per function point. His rate of pay for the project is £13 per hour.

The staff working on the development of the system will need a high specification laptop, which costs £30 per day for each laptop.

The Systems Integrator and Programmer will work together to devise a test plan. This task should be completed in two days.

System testing will require two members of staff, and will last for approximately 10 days. All testers will need a 'Tester Laptop,' which costs £23 per day for each laptop.

In similar projects one significant fault was found after changeover. The fault typically takes the Systems Integrator two days to fix, and a further two or three days for the regression testing.

The project will begin on 12/02/18 and the new system is scheduled to be handed over on 13/04/18 (9 weeks).

Brenda has told you that the Mutto Plant Manager, Haroon, would like to have a direct changeover scheduled for mid-April.

Mutto have a budget of £18,900 for the new system and the associated training. The client, Haroon, has stated that he would like to be updated regularly regarding the progress of the project and that he expects the Project Manager to provide at least one "Checkpoint" report.

### **The Business Case**

The new control system will lower labour costs significantly by reducing the number of people needed in the manufacturing process. This should give a net saving of £120,000 per year. The new system will bring these additional benefits:

- improved product quality due to the elimination of human errors on the production line
- growth in the business because of the ability to be more flexible and competitive with pricing.

The initial cost of the system will be recuperated quickly and Mutto see the new control system as a good investment.

## Part A Set Task

**You must complete ALL activities within the set task.**

**You are reminded that you need to produce your documents using a computer and software of your choice.**

**Your documents must be saved in your folder ready for submission using the formats and naming conventions indicated.**

You need to complete your company's Project Initiation Document (PID) for the computing project.

### Activity 1

Produce a Project Initiation Document for your project using the template **Project\_Initiation\_Document.rtf**

The 'Business case' section has already been populated.

*Add further lines to the Project Initiation Document sections if required.*

Save your PID as a PDF in your folder for submission as **activity1PID\_[Registration number #]\_[surname]\_[first letter of first name]**

You are advised to spend 1 hour and 30 minutes on this activity.

**(Total for Activity 1 = 22 marks)**

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Project planning documentation is needed to go with your PID. You need to produce a Gantt chart, resource list and cost plan for the computing project.

### Activity 2

Produce the following project planning documentation based on the information provided in the set task brief:

- (a) a Gantt chart
- (b) a resource list
- (c) a cost plan.

Save your planning documentation as a PDF in your folder for submission.

*Gantt chart as*

**activity2gantt\_[Registration number #]\_[surname]\_[first letter of first name]**

*Resource list as*

**activity2resource\_[Registration number #]\_[surname]\_[first letter of first name]**

*Cost plan as*

**activity2cost\_[Registration number #]\_[surname]\_[first letter of first name]**

You are advised to spend 1 hour and on this activity.

**(Total for Activity 2 = 14 marks)**

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**TOTAL FOR PART A = 36 MARKS**

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