

-SQA- SCOTTISH QUALIFICATIONS AUTHORITY

HIGHER NATIONAL UNIT SPECIFICATION

GENERAL INFORMATION

-Unit Number- **6412355**
-Superclass- **VB**
-Title- **OPERATIONS MANAGEMENT PRACTICE**

-DESCRIPTION-

GENERAL COMPETENCE FOR UNIT: Analysing the procedures and processes involved in the implementation and control of the operating systems of an organisation.

OUTCOMES

1. analyse the utilisation of human resources within an operating system;
2. apply material management principles to operating systems;
3. apply scheduling and control techniques to operating systems;
4. analyse the processes for managing the fixed assets within an operating system.

CREDIT VALUE: 2 HN Credits

ACCESS STATEMENT: Access to this unit is at the discretion of the centre. However, it would be beneficial if the candidate had achieved Higher National Unit 6412345 Introduction to Operations Management or equivalent.

For further information contact: Administrative Services Unit, SQA, Hanover House, 24 Douglas Street, Glasgow G2 7NQ.

Additional copies of this unit may be purchased from SQA (Publications Unit). At the time of publication, the cost is £1.50 (minimum order £5).

HIGHER NATIONAL UNIT SPECIFICATION**STATEMENT OF STANDARDS**

UNIT NUMBER: 6412355

UNIT TITLE: OPERATIONS MANAGEMENT PRACTICE

Acceptable performance in this unit will be the satisfactory achievement of the standards set out in this part of the specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

OUTCOME

1. ANALYSE THE UTILISATION OF HUMAN RESOURCES WITHIN AN OPERATING SYSTEM

PERFORMANCE CRITERIA

- (a) The human resource requirements for an operating system are assessed in line with the objectives set for the organisation.
- (b) Standards of performance set are correctly assessed in terms of data obtained from Work Study and/or Organisation and Methods techniques.
- (c) Design of jobs is analysed in terms of the type of work performed and the needs of the human resource employed.
- (d) The effects of current employment practices are analysed correctly with respect to the requirements of the operating system.

RANGE STATEMENT

Human resource requirements: demand forecast; supply forecast; manpower plan.

Work study/organisation and methods: method study; work measurement.

Job design techniques: ergonomics; job rotation; job enrichment; job enlargement; autonomous work groups.

Employment practices: numerical flexibility; functional flexibility; just-in-time practices.

EVIDENCE REQUIREMENTS

Written/oral evidence covering all performance criteria and the full range.

OUTCOME

- 2. APPLY MATERIAL MANAGEMENT PRINCIPLES TO OPERATING SYSTEMS

PERFORMANCE CRITERIA

- (a) Material management principles are applied correctly for independent demand items.
- (b) Material management principles are applied correctly for dependent demand items.

RANGE STATEMENT

Independent demand items: economic order quantity; re-order level system; periodic review system; ABC classification.

Dependent demand items: Material Requirements Planning (MRP); Manufacturing Resources Planning (MRP11); Just-in-time.

EVIDENCE REQUIREMENTS

Performance evidence of MRP/MRP11 gross to net calculations. Written/oral evidence for all other aspects of range.

OUTCOME

- 3. APPLY SCHEDULING AND CONTROL TECHNIQUES TO OPERATING SYSTEMS

PERFORMANCE CRITERIA

- (a) Application of network analysis techniques to plan and control project activities is correct and consistent with available data.
- (b) Line balancing techniques are used correctly to plan continuous production systems.
- (c) Scheduling rules are applied correctly to control batch operating systems.
- (d) Operations control is applied correctly for a service environment.

RANGE STATEMENT

Network analysis: construction of network diagram; calculations for overall project duration and total float; reschedule of network to meet specified constraint.

Line balancing: allocation of work elements to work stations; calculation of balancing loss.

EVIDENCE REQUIREMENTS

Preparation of network diagram, calculation of overall project duration and activity total floats; rescheduling of network to meet imposed constraint.

Preparation of line balance for given work elements and cycle time, calculation of balancing loss. Written/oral evidence for all other areas of the range statement.

OUTCOME

4. ANALYSE THE PROCESSES FOR MANAGING THE FIXED ASSETS WITHIN AN OPERATING SYSTEM

PERFORMANCE CRITERIA

- (a) Maintenance activities are correctly organised in relation to the requirements of an operating system.
- (b) Maintenance information systems are accurately assessed in line with the requirements of an operating system.
- (c) Replacement policies are evaluated accurately in accordance with the requirements of an operating system.

RANGE STATEMENT

Organisation: area structure; departmental structure; central structure; Total Preventive Maintenance (TPM).

EVIDENCE REQUIREMENTS

Written/oral evidence covering all performance criteria and the full range.

MERIT A pass with merit may be awarded to a candidate who demonstrates skills to a higher order. This might be in terms of:

- (a) consistency of performance;
- (b) clarity of expression;
- (c) originality of approach;
- (d) ability to tackle unusual or open-ended problems;
- (e) a greater depth of underpinning knowledge or more penetrating grasp of concepts.

ASSESSMENT

In order to achieve this unit, candidates are required to present sufficient evidence that they have met all the performance criteria for each outcome within the range specified. Details of these requirements are given for each outcome. The

assessment instruments used should follow the general guidance offered by the SQA assessment model and an integrative approach to assessment is encouraged. (See references at the end of support notes.)

Accurate records should be made of the assessment instruments used showing how evidence is generated for each outcome and giving marking schemes and/or checklists, etc. Records of candidates' achievements should also be kept. These records will be required for external verification.

SPECIAL NEEDS

Proposals to modify outcomes, range statements or agreed assessment arrangements should be discussed in the first place with the external verifier.

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HIGHER NATIONAL UNIT SPECIFICATION**SUPPORT NOTES**

UNIT NUMBER: 6412355

UNIT TITLE: OPERATIONS MANAGEMENT PRACTICE

SUPPORT NOTES: This part of the unit specification is offered as guidance. None of the sections of the support notes is mandatory.

NOTIONAL DESIGN LENGTH: SQA allocates a notional design length to a unit on the basis of the time estimated for achievement of the stated standards by a candidate whose starting point is as described in the access statement. The notional design length for this unit is 80 hours. The use of notional design length for programme design and timetabling is advisory only.

PURPOSE This unit enables the candidate to explore and understand some of the key issues involved in the management of an operating system, whether in manufacturing or service industries.

CONTENT/CONTEXT Corresponding to outcomes:

Outcome 1 looks at the use of the human resource within an operating system and should focus on the development of the requirements for people in the system; their training needs (especially in the service sector where there is a strong need for customer care skills) and the design of jobs.

Outcome 3 - Networks may be constructed using either activity on node or arrow diagram methods. Calculations for overall project duration; total float; critical path; reschedule to meet suitable constraint eg manpower availability. Definitions of terms work element; work station; balancing loss; cycle time; station cycle time; use of techniques such as Rank Positional Weight method to balance line. Knowledge of scheduling rules such as First Come First Served; Shortest Processing Time First; Fewest Operations Remaining; Critical ratio; Johns's Rule.

Outcome 4 - Maintenance tasks - installation; commissioning; repair; service; legal requirements (Health and Safety at Work Act 1974); organisation centrally; area; departmental; by trade types.

APPROACHES TO GENERATING EVIDENCE It might be useful to try to devise a case study type scenario in which assessments for all outcomes could be included. This has the advantage of allowing the candidate to see the development of, and the interaction between, the different elements of the operation system. It should be noted that it is not intended that all assessments are carried out at the same time but rather that they are phased in with the delivery of the subject material.

ASSESSMENT PROCEDURES Centres may use Instruments of Assessment which are considered by tutors/trainers to be most appropriate. Examples of Instruments of Assessment which could be used are: essays, case studies, exams, portfolios or a combination of all four.

REFERENCES

1. Guide to unit writing.
2. For a fuller discussion on assessment issues, please refer to SQA's Guide to Assessment.
3. Information for centres on SQA's operating procedures is contained in SQA's Guide to Procedures.
4. For details of other SQA publications, please consult SQA's publications list.

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