ଓଡ଼ିଶା ରାଜ୍ୟ ମୁକ୍ତ ବିଶ୍ୱବିଦ୍ୟାଳୟ, ସମ୍ବଲପୁର, ଓଡ଼ିଶା
Odisha State Open University, Sambalpur, Odisha
Established by an Act of Government of Odisha.

Assignment January 2020

Semester – 2

GEBBA-2 Operations Management

Course code	Name of the course	Course type	Credit value	No. of assignments to be submitted
GEBBA 02	Operations Management	Generic Elective	6	2

This assignment is to be submitted by the learners of Bachelor Degree Programmes those have opted for this course as Generic Elective.

For any doubts please contact the programme coordinator.

Submission date for 6 credit courses (two assignments):

Assignment-1: 3rd Sunday (April)

Assignment-2: 1st Sunday (May)

Please read the instructions carefully before attempting assignment questions.

INSTRUCTIONS

Dear Learner,

Greetings from Odisha State Open University.

You are required to submit your assignment response within the stipulated time in order to become eligible to appear in the term-end examination. The assignments will be evaluated by the counselors at your Study Centre. Please submit your assignment to the Coordinator of the Study Centre. Before you attempt the assignments, please go through the course materials carefully. Please read the instructions pertaining to an assignment before you start writing your answer. Do not copy from the course material or from any other source. You are advised to read the study material, understand the same and write answers in your own language and style so that you will get good marks/grades.

Purpose of assignments

- Assignments are part of the continuous evaluation process in Open and Distance Learning (ODL) system.
- This will help you for better performance in the term-end examination. If you secure good grades/marks in assignments, your overall performance will improve.
- Your assignment, after evaluation, will be returned to you with comments by the evaluator.
- This will help you to know your strength as well as your weakness. Thus, it will establish a two- way communication between the learner and the evaluator.

How to write assignments

- Write your name, programme code, course title, enrollment no. and study centre code on the top sheet of the assignment answer booklet.
- Write the answers in your handwriting. Give sufficient margin in the left side of each page so that the evaluator will give comments on each paragraph/page.
- Do not cross the word limit given in each question.
- Your handwriting should be neat and readable.

Weightage of each assignment

- Each assignment will be of 100 marks but it will carry 25% weightage
- Similarly, the Term End Examination will be of 100 marks but will carry 75% weightage.
- You have to score minimum pass mark i.e. 40% in each assignment.
- In case you do not submit assignment or get fail mark in assignment you have to re-submit in the next year.

GEBBA 02 Operations Management

Assignment-1

<u>Group-A</u> (1 × 10 = 10 Marks)

1. Answer all of the following in one word for each.

a) Statistical quality control refers to the use of statistical methods in the __________ and maintaining of the quality of products and services.

b) Quality is a relative term and is generally explained with reference to the end use of the __________.

c) Descriptive statistics involves ____________ quality characteristics and relationships.

d) Statistical Process Control involves inspect random sample of ___________ from process for characteristic.

e) Re Order Point = (Lead Time x Usage Rate) + ______________.

f) ___________ method involves qualitative and quantitative inputs, and evaluates alternatives based on comparison after establishing a composite value for each alternative.

g) Break even analysis implies that at some point in the operations, total revenue ________ total cost.

h) System in which low-skilled workers use specialized machinery to produce high volumes of standardized goods is known as ____________.

i) Physical models look like their ___________ counterparts.

j) Using resources in ways that do not harm ecological systems that support human existence is known as _____________.

<u>Group-B</u> (2 × 10 = 20 Marks)

2. Define all of the following within two sentences for each.

a) Logistics

b) Lean manufacturing

c) Six Sigma

d) Plant layout

e) Quality

f) Productivity

g) Material handling

h) Process layout

i) Capacity planning

j) Product layout

<u>Group-C</u> (3 × 10 = 30 Marks)

3. Answer all of the following in 75 words for each.

a) What is Lean Culture?

b) Calculate the economic order quantity from the following particulars:

Annual requirement = 2,000 units

Cost of materials per unit = Rs. 20

Cost of placing and receiving one order = Rs. 40

Annual carrying cost of inventory, 20% of inventory value.

c) Define the plant layout.

d) Briefly describe the term operations management.

e) What is black belt in Lean Six Sigma?

f) Describe the factors that should be taken into account in deciding the location of plant?

g) Explain the benefits of statistical quality control.

h) Why is the degree of customization an important consideration in process planning?

i) Explain the growth and development of Total Quality Management concept over the years.

j) Draw the framework of Input-Process-Output (IPO) model and explain with example.

<u>Group-D</u> (10 × 4 = 40 Marks)

4. Answer all of the following in 500 words for each.

a) What are trade-offs? Why careful consideration of trade is-offs important in decision making?

b) A manufacturing company will require 1, 00,000 units of a product during the next year. The cost of processing an order is Rs. 40 and the carrying cost per unit is Rs.2 per year. Lead time of an order is 5 days and the company will keep a safety stock of two days usage. You are required to calculate the following:

i. Economic order Quantity

ii. Re-order Point

iii. Minimum Inventory

iv. Maximum Inventory

v. Average Inventory

c) Describe quantitative models for plant location selection with suitable example.

d) SK Company Ltd. a manufacturer of Computer CDs inspects a sample of 50 CDs from each day's output. A quality inspector of the company decides on the acceptability of the CDs based on a variety of attributes. Data relating to the number of defectives in the sample over the past 20 days are given below.

Days	No. of defectives	Days	No. of defectives	Days	No. of defectives
1	3	8	7	15	7
2	10	9	18	16	6
3	13	10	1	17	19
4	4	11	0	18	3
5	12	12	4	19	9
6	14	13	9	20	7
7	8	14	22		

The production managers suspects that the variation in quality was due to deputing an inexperienced substitute operator instead of a regular one, on three days during the period. Determine the days of poor quality which can be traced or assigned to the inexperienced operator by use of a fraction defective chart.

GEBBA 02 Operations Management

Assignment-2

Group-A (1 × 10 = 10 Marks)

1. Answer all of the following in one word for each.

a) SPC stands for _____________ Process Controls.

b) SQC stands for Statistical ___________ Control.

c) ______ flow diagram is a picture of the separate steps of a process in sequential order.

d) Fishbone diagram is an example of ________ and effect diagram.

e) High cost, low volume items requires __________ inspection.

f) Process control is carried out ___________ production.

g) QMS stands for Quality ___________ System.

h) PDCA implies ________, do check, and act.

i) The objective of ISO-9000 family of Quality Management is __________ satisfaction.

j) Kaizen is an incremental approach to improve _____________.

Group-B (2 × 10 = 20 Marks)

2. Define all of the following within two sentences for each.

a) Define operating system.

b) What is industrial precedence?

c) What is feasibility constraint?

d) Define ‘economic order quantity’.

e) What is buffer stock?

f) What is reorder point in inventory management?

g) What is supply chain?

h) What is producer’s risk?

i) How to find out proportion of defective (p) in sample products?

j) What is R- chart?

Group-C (3 × 10 = 30 Marks)

3. Answer all of the following in 75 words for each.

a) What do you mean by ‘supply chain management’?

b) Differentiate between ‘batch’ and ‘mass’ production.

c) What do you mean by ABC analysis?

d) What is business process?

e) Mention the important tools of statistical quality control.

f) Write the difference between product layout and plant layout.

g) Which among the ‘quality inspection’ and ‘quality assurance’ is a better method to control the quality? Why?

h) Explain the various techniques of inventory control with examples.

i) What are the core responsibilities of an operation manager?

j) Discuss the term sustainability, and its relevance for business organisations.

Group-D (10 × 4 = 40 Marks)

4. Answer all of the following in 500 words for each.

a) Describe the costs of quality. Also interpret in your own words the slogan, ‘quality is free’.

b) List and explain different factors considered while selecting a plant location.

c) What are different types of layouts? Suggest and justify the preferred types of layouts for organizations engaged in ‘car manufacturing’.

d) What is meant by operations strategy? List and explain the strategic dimensions or competitive priorities normally set by manufacturing and service operations?