BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Manufacturing Skills

Session: 2020-21 (Winter Semester)

B. Voc. Program, 5th Semester,

1st In-Sem. Examination

Course Code: SMS1501 **Time: 1 Hour**

Course Name: Production Management **Max. Marks: 20**

Instructions:

1. Attempt all questions.
2. Use of Calculator is Allowed.
3. Section A contains 05 Questions. Each question carries 1 Mark.
4. Section B contains 03 Questions. Each question carries 2 Marks.
5. Section C contains 03 Questions. Each question carries 3 Marks.

Section – A

05X01 = 05 Marks

1. Work Study can be applied in-
   a) Automotive industry
   b) Hospital
   c) Tourism
   d) Every where
2. Consumer means:
   a) Customer
   b) Seller
   c) Business Owner
   d) None of these
3. Demand Forecasting means:
   a) Past demand
   b) Future demand
   c) Present demand
   d) None of these
4. In Method Study, Transport is represented by ----------.
   a) Arrow
   b) Square
   c) Circle
   d) None of these
5. Prime Cost in a Manufacturing Industry includes:
   a) All direct cost
   b) Factory overhead cost
   c) Summation of direct and factory overhead cost
   d) None of the above

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Section – B

03X02 = 06 Marks

6. Explain demand curve with graph?
7. Write down the comparison between Conventional and JIT attitudes
8. What do you mean by ABC analysis? Explain in detail.

Section – C

03X03 = 09 Marks

9. The annual sales of Link Pen manufacturing industry during the period of 2010-2019 are given below in tabular form. We have to find out the sales using 3 years moving averages method and forecast the value for the year 2020.

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020
Sales in Rs. Lakhs	12	15	14	16	18	17	19	20	?

10. The observed time for an element is 2 minutes. The rating factor is 80%. If standard time is
11. The accounts of Rahim Manufactures Ltd. for the year ended 31st December 2018 show the following:

	Rs.
Materials purchased	1,60,000
Material left on 31.12.88	10,000
Direct labour	50,000
Direct expenses	30,000
Factory expenses	20,000
Office & administrative expenses	10,000

Find out:

(a) Material Consumed

(b) Prime Cost

(c) Cost of Production

Sec - A

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Manufacturing Skills

Session: 2020-21 (Winter Semester)

B. Voc. Program, Semester-V,

1st In-Sem. Examination

Course Code: SMS1501 | **Time: 1 Hour**

Course Name: Production Management | **Max. Marks: 20**

Instructions:

1. Attempt all questions.
2. Use of Calculator is Allowed.
3. Section A contains 05 Questions. Each question carries 1 Mark.
4. Section B contains 03 Questions. Each question carries 2 Marks.
5. Section C contains 03 Questions. Each question carries 3 Marks.

Answer Key

Section – A

05X01 = 05 Marks

1. Work Study can be applied in

   (i) Automotive industry (ii) Hospital (iii) Tourism

   (iv) Every where

   Ans. (iv)

2. Consumer means:
   (a) Customer (b) Seller (c) Business Owner
   Ans. (a) Customer
3. Demand Forecasting means:
   (a) Past demand (b) Future demand (c) Present demand
   Ans. (b) Future demand
4. In Method Study, Transport is represented by ----------

   Ans. ⟹

5. Prime Cost in a Manufacturing Industry includes:

   (a) All direct cost (b) Factory overhead cost (c) Summation of direct and factory overhead cost
   Ans. (a) All direct cost

Section – B

03X02 = 06 Marks

6. Explain demand curve with graph?

   Ans. When cost is increasing, demand is decreasing and vice-versa.

7. Write down the comparison between Conventional and JIT attitudes

8. What do you mean by ABC analysis? Explain in detail.
Ans.: Draw the graph.

Interpretation of the graph

- The A class materials represent only 20% of the materials in inventory and 75% of the inventory value
- The B class materials represent 30% of the materials in inventory and 20% of the inventory value
- The C class materials represent 50% of the materials in inventory and only 5% of the inventory value

This classification suggests that the higher the inventory value of a material, more the analysis that should be applied to the material

Ordinarily, class A material would be analyzed extensively and class C materials would be analyzed little.

Section – C

03X03 = 09 Marks

9. The annual sales of Link Pen manufacturing industry during the period of 2010-2019 are given below in tabular form. We have to find out the sales using 3 years moving averages method and forecast the value for the year 2020.

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020
Sales in Rs. Lakhs	12	15	14	16	18	17	19	20	?

Ans.: Forecast for 2020 = (17+19+20)/3 = 18.67 = 19

10. . The observed time for an element is 2 minutes. The rating factor is 80%. If standard time is 1.76, how much allowance is given for the element?

Soln.: Normal time = 2 x 0.8 = 1.6 min.

Standard time = Normal time x {1/(1-A)}

1.76 = 1.6 x {1/(1-A)}

1.76 / 1.6 = 1/(1-A)

1- A = 1/1.1 = 0.9

A = 1 – 0.9 = 0.1

Allowance is 10%.

11. The accounts of Rahim Manufactures Ltd. for the year ended 31st December 2018 show the following:

	Rs.	
Materials purchased	1,60,000	
Material left on 31.12.88	10,000	
Direct labour	50,000	
Direct expenses	30,000	
Factory expenses		20,000
Office & administrative expenses	10,000	

Find out:

(a) Material Consumed

(b) Prime Cost

(c) Cost of Production

Ans.: (a) Material consumed = 160000 – 10000 = Rs. 1,50,000

(b) Prime cost = 150000 + 50000 + 30000 = 230000/-

(c) Cost of production = 230000 + 20000+ 10000 = 260000/-

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Registration No.: .....

School of Manufacturing Skills

Session: 2020-21 (Summer Semester)

B. Voc. Program, 5th Semester,

1st In-Sem. Examination – Series A

Course Code: SMS1504 **Time: 1 Hour**

Course Name: Project Work **Max. Marks: 20**

Instruction:

1. Attempt all questions.
2. Use of Calculators is Prohibited.
3. Section A contains 5 Questions. Each question carries 1 Marks.
4. Section B contains 3 Questions. Each question carries 2 Marks.
5. Section C contains 3 Questions. Each question carries 3 Marks.

Section – A

05X01 = 05 Marks

1. The project phase model was introduced. Which of the following phases is typically **not part of project execution?** (Mark only one answer)
   a. Conception & Initiation
   b. Performance & Control
   c. Launch or Execution
   d. Project Close
2. Which of the following undertakings can be called a "**Project**"? (Mark only one answer)
   a. Production of the Mobile Phone "Samsung Galaxy J7 Star".
   b. Work at the cash checkout in the "Reliance Smart" shop in Jaipur (Elements Mall).
   c. Planning and execution of the reforestation of the lost forest areas due to the urbanization in industrialized nations.
   d. Playing on the mobile phone during the lectures in "Project Management".
3. The project will be completed after the "Closure" phase. Part of the "Closure" phase is the transfer of the ..... to the customer. (Mark only one answer)
   a. Project contract
   b. Deliverables
   c. Goals
   d. Appendix of the project report
4. During the "Project Definition" phase, we define the following: (Mark only one answer)
   a. Key Performance Indicator (KPI)
   b. "Project Charter" sheet
   c. Project Goals
   d. The location for Project Closure ceremony

5. In addition to the Goals we also define Not-Goals in the project contract. Which of the following statements is **not** true? (Mark only one answer)
   a. Not-Goals can be Goals in another project.
   b. Not-Goals are inside of the area of interest.
   c. Not-Goals are ordinary and boring to achieve. Therefore, we define them as Not-Goals.
   d. The definition of Not-Goals has the deeper intention of sharpening the profile of the Goals. The aim is to avoid the project team wasting time going in the "wrong direction".

Section – B

03X02 = 06 Marks

1. In the very start of the lecture the term "Project" was defined by two different sentences. Reproduce one of them or explain the term "Project" with your own words.

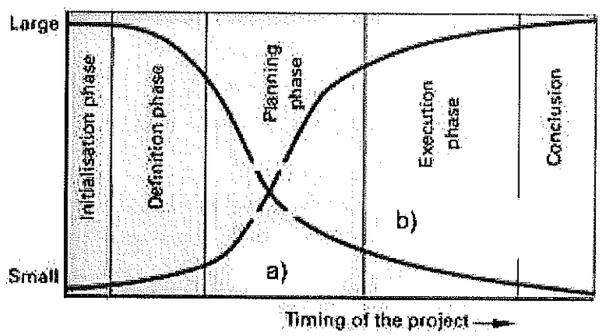
2. During the lecturing we discussed the interplay of knowledge and influence of decisions in the progress of projects.

   Please name the red line correctly

   a).....

   Please name the blue line correctly

   b).....



c) Explain the importance of the intersection point in the yellow circle in own words. What document should be signed ideally at this point?

3. Note and explain the mathematical derivation of the risk analysis. Determine first the scale of the boundaries of the required individual terms/factors.

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Section – C

03X03 = 09 Marks

1. In the classroom the acronym S.M.A.R.T. was discussed. Explain the a) purpose of the acronym, b) define the meaning of each letter.
2. In the lecture on project risks, eight typical project risks were mentioned. You are requested to name **three** of them and to take a suitable risk reduction measure for each risk.
3. At the beginning of the lectures, the progression of a project from **Point A to Point B** was explained by a sketch on the whiteboard. Reproduce this sketch and illustrate the five different phases of the project. (Project Initiation/Launch, Project Definition & Planning, Project Execution, Project Control, Project Closure)

set - A

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Manufacturing Skills

Session: 2020-21 (Summer Semester)

B. Voc. Program, 5th Semester,

1st In-Sem. Examination – Series A

Answer key

Course Code: SMS1504

Course Name: Project Work

Time: 1 Hour

Max. Marks: 20

Section – A

1. Answer is a)
2. Answer is c)
3. Answer is b)
4. Answer is c)
5. Answer is c)

Section – B

03X02 = 06 Marks

1. Definition Nb. 1

A project is defined as a "temporary endeavor with a beginning and an end and it must be used to

create a unique product, service or result".

(ref: Project Management Body of Knowledge, 3rd edition)

Definition Nb. 2

Projects are undertakings that are characterized essentially by the uniqueness of the conditions that affect it as a whole.

(ref: DIN 69901-5 (2009-01))

Note: If the student explains the term "Project" with its own words. The a) **unique character** of the project and b) **the temporarily boarder condition** must be named.

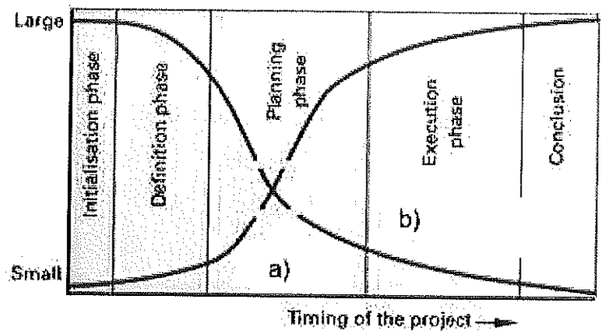
2. In the lesson we discussed the interplay of knowledge and influence of decisions in the progress of projects.

Please name the red line correctly

a) Knowledge

Please name the blue line correctly

b) Influence of decision



c) Explain the importance of the intersection point in the yellow circle in own words. What document should be signed ideally at this point?

At this moment the knowledge has increased to such a value that the project contract can be signed. The influence of the decision has decreased, but is still high enough to make the decision for the coming project phases.

3.

Factors/Terms		Scale of the Boundries		
Negative impact of the event	=	small effect 1	-	disaster 10
Probability of occurrence	=	no occurrence 0% [0]	-	guaranteed 100% [1]
eliminated		small effect		risk
Effectiveness of risk reduction measure	=	1	-	10

Step 1: (probability of occurrence of the event x negative impact of the event) = (resulting risk)

Step 2: (resulting risk) - (effectiveness of 1st risk reduction measures + effectiveness of 2st risk reduction measures + …) = (resulting risk after reduction measures)

Section – C

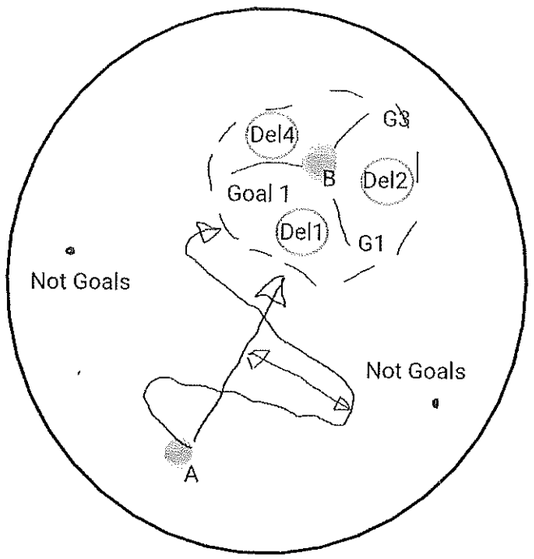
03X03 = 09 Marks

1. A) SMART is an acronym **to guide in the setting of goals** in project management.

B)
- *S* *Specific* – target a specific area for improvement.
- *M* *Measurable* – quantify or at least suggest an indicator of progress.
- *A* *Achievable* – specify who will do it.
- *R* *Realistic* – state what results can realistically be achieved, given available resources.
- *T* *Time-related* – specify when the result(s) can be achieved.

2. Project risks – typical project risks
    - Over-optimistic timing and budget plan
      Example of risk reduction measure: Planning of reserves/extra resources in the project contract
      (similar measure to reduce the risk is also valid)
    - Loss of key employees due to illness, leaving the company
      Risk reduction measure: Planning of reserves/extra resources in the project contract
      (similar measure to reduce the risk is also valid)
    - Non-compliance with agreed deadlines
      Risk reduction measure: Precise reporting and monitoring of the progress of the project
      (similar measure to reduce the risk is also valid)
    - Conflict between team members
      Risk reduction measure: Addressing conflicts early and solution-oriented in team meetings
      (similar measure to reduce the risk is also valid)
    - Lack of support of management
      Risk reduction measure: Write interim reports, using examples to point out the importance of the project. (similar measure to reduce the risk is also valid)
    - Lack of acceptance among potential users of the product
      Risk reduction measure: Carry out experiments on the customers at an early stage. Design aspects of the product in such a way that the customers want the product.
      (similar measure to reduce the risk is also valid)
    - Technological feasibility such as limited material properties or size
      Risk reduction measure: Recognize and recommend early termination of the project
      (similar measure to reduce the risk is also valid)
    - Legal risk such as product liability
      Risk reduction measure: Know legal aspects of the area of interest. Derive responsibilities for product safety from this, adhere to them in the product and record them in the user manual.
      (similar measure to reduce the risk is also valid)

3. The sketch should look similarly like below



Phase 1 - Conception an Initiation
(Area of interest)

Phase 2 - Definition and planning
(Starting Point A - Ending Point B)
(Project contract)

Phase 3 - Launch or Execution
(Project progres in reality)

Phase 4 - Performance and
Control
(Progress in reality to the plan has to be updated) (Gap needs to be minimized)

Phase 5 - Closure
(Handing over the deliverables)

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Registration No.: .....

School of Manufacturing Skills

Session: 2020-21 (Summer Semester)

B. Voc. Program, 5th Semester,

1st In-Sem. Examination

Course Code: SMS1505 **Time: 1 Hour**

Course Name: Quality Management **Max. Marks: 20**

Instruction:

1. Attempt all questions.
2. Section A contains 5 Questions. Each question carries 1 Marks.
3. Section B contains 3 Questions. Each question carries 2 Marks.
4. Section C contains 3 Questions. Each question carries 3 Marks.

Section – A

05X01 = 05 Marks

1. Which of the following is correct in context to Inspection?
   A. It is a way to prevent the production of bad items
   B. Inspection adds to the cost of the product but not for its value
   C. Fatigue and Monotony don't affect any inspection judgment
   D. None of above

2. Which of the following is not among 7 QC tools?
   A. Check sheet
   B. Histogram
   C. Kanban
   D. Pareto chart

3. The cause and effect diagram is also called
   A. Stratification analysis
   B. Total quality management
   C. PDCA technique
   D. Fish - bone diagram

4. PDCA cycle have
   A. 12 steps
   B. 11 steps
   C. 10 steps
   D. 13 steps

5. In any process variability is due to
   A. Selected cause
   B. Technical cause
   C. Chance cause and assignable cause
   D. None of the above

Section – B

03X02 = 06 Marks

6. Write any two purpose of inspection.
7. Define quality assurance.
8. When assignable causes are identified in a process?

Section – C

03X03 = 09 Marks

9. What is the significance of quality tools? Write down 7QC tools.
10. Explain Pareto chart with appropriate example.
11. Write at least six characteristics of quality circle.

Set - A

BHARTIYA SKILL DEVELOPMENT UNIVERSITY

School of Manufacturing Skills

Session: 2020-21 (Summer Semester)

B. Voc. Program, 5th Semester,

1st In-Sem. Examination

Course Code: SMS1505 **Time: 1 Hour**

Course Name: Quality Management **Max. Marks: 20**

Answer Key A

Section – A

05X01 = 05 Marks

1. Which of the following is correct in context to Inspection?
   B. Inspection adds to the cost of the product but not for its value

2. Which of the following is not among 7 QC tools?
   C. Kanban

3. The cause and effect diagram is also called
   D. Fish bone diagram

4. PDCA cycle have
   A. 12 steps

5. In any process variability is due to
   C. Chance cause and assignable cause

Section – B

03X02 = 06 Marks

6. Write any two purpose of inspection.
   Ans.
   (1) To distinguish good lots from bad lots
   (2) To distinguish good pieces from bad pieces.
   (3) To determine if the process is changing.
   (4) To determine if the process is approaching the specification limits.

7. Define quality assurance.
   Ans.
   Quality assurance is the method of assuring the desired quality, reliability, service and other aspects in the manufactured product in current production.

8. When assignable causes are identified in a process?
   Ans.
   When there is some inconsistency in process operation.

Section – C

03X03 = 09 Marks

9. What is the significance of quality tools? Write down 7QC tools.

Ans.

The elementary statistical tools have fetched a lot of importance, as the seven indispensable tools of Quality for any organization to flourish to the zenith of excellence. The concept behind the seven basic tools came from Kaoru Ishikawa, according to whom, 95% of quality related problems can be resolved with these basic tools.

- Histogram or stem-and-leaf plot
- Check sheet
- Pareto chart
- Cause-and-effect diagram
- Stratification
- Scatter diagram
- Control chart

10. Explain Pareto chart with appropriate example.

Ans.

A Pareto diagram, also called 80/20 rule, is used to graphically abridge and display the relative significance of the differences between clusters of data i.e., separating the vital few causes (20%) that account for a dominant share of quality loss (80%) (Besterfield, 2001). The Pareto diagram is based on Pareto principle, which states that few of the defects accounts for most of the effects.

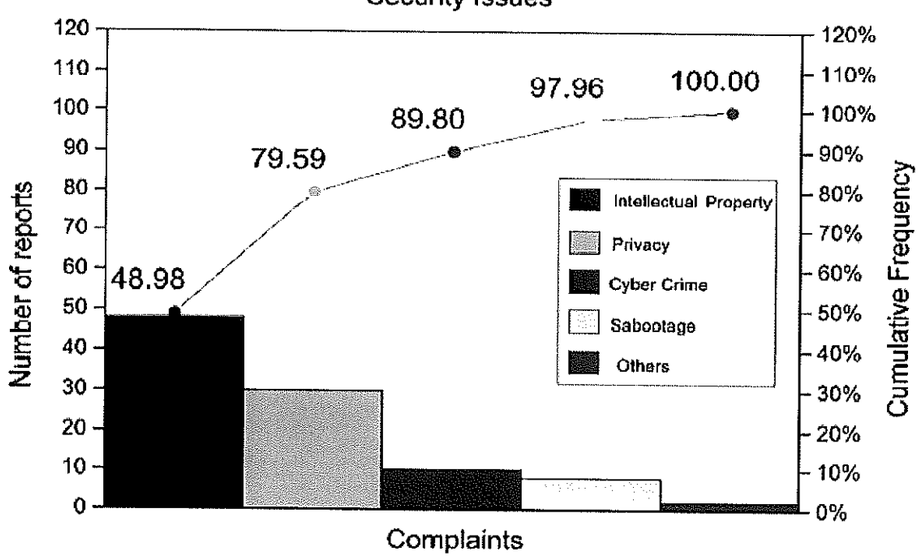

Figure 4 Pareto diagram used to prioritize the security issues

11. Write at least six characteristics of quality circle.

Ans.

- Volunteers
- Set Rules and Priorities
- Decision made by consensus
- Organized approach to problem solving
- Members of a circle need to receive training
- Support of senior management required
- Members need to be empowered