Register Number:………….…

M.E. DEGREE EXAMINATIONS: APRIL / MAY 2023

(Regulation 2018)

Second Semester

INDUSTRIAL ENGINEERING

P18IEE2010: Concepts in Business Analytics

COURSE OUTCOMES

CO1: To understand the business process perspective of operations and its critical importance in manufacturing and service organizations.

CO2: To understand the critical elements of BP in manufacturing and service firms, Modeling using a process modeling software

CO3: To understand the impact of resource capacities, flexibility and process efficiencies on process performance metrics.

CO4 Understand the role of BP management in operations improvement strategies-Six-Sigma: DMAIC – CONTROL Phase.

CO5 To understand the role of business process management in operations improvement strategies and recognize the importance of lean-six-sigma green-belt certification

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Assertion : Business process perspective refers to internal **business processes** which allows the managers to know how well their **business** is running effectively.   CO1   [K_2]
    Reason : Business process perspective does not focus on whether the products and services conform to customer requirements .

    a)   A and B are correct   b)   A is correct and B is wrong

    c)   A and B are wrong   d)   A is wrong and B is correct

2. Descriptive analytics answers the question   CO1   [K_1]

    a)   What happened   b)   Why happened

    c)   What is likely to happen   d)   What is the future course of action

3. KPI stands for   CO2   [K_1]

    a)   Kaizan process indicators   b)   Kanban process indicators

    c)   Key process indicators   d)   Key performance indicators

4. Matching type item with multiple choice code   CO2   [K₂]

List I	List II
A. Origin of resource	i. Ubiquitous
B. Reserve	ii. Immediate use
C. Resource	iii. Future use
D. Resource distribution	iv. Abiotic, biotic

	A	B	C	D
a)	iv	iii	ii	i
b)	i	ii	iii	iv
c)	ii	iii	iv	i
d)	iii	iv	ii	i

5. _____- is a measure of how well an organization uses its productive   CO3   [K₁]
capacity.
   a)   Capacity identification   b   Capacity modification
   c)   Capacity utilization   d   Capacity planning

6.   CO3   [K₂]
   The analyze phase is all about reviewing the _____ to improve

   efficiency, listing the probable root causes, and identifying important factors/inputs that

   greatly impact the output using statistical tools like hypothesis testing.

   a   Value map   b   process map

   c   Product need   d   Process need

7. Time spent doing the transactional activities that are related to work, such as checking   CO4   [K₂]
   and responding to emails, searching for information, or sitting in meetings is called

   _____

   a)   True work availability   b   Work planning
   c)   Work calendar   d   Work schedule

8. SPC stands for   CO4   [K₂]

   A   Statistical product Control   Statistical Process Concurrence

   C   Statistical Process Control   Sampling Process Control

9. Design for six sigma (DFSS)   CO5   [K₂]

   a)   An improvement of existing system   b)   Monitoring of existing system

   c)   Improvement of new system   d)   Design focus

10. Following is the activities required to create a balanced score card   CO5   [K₂]
       1 .Map out the process
       2. Implement the process
       3. Assign initiatives
       4. Develop performance measures
       5. Cascade the scorecard

Pick out the correct sequence

a) 1,4,3,2,5   b) 1,2,3,4,5

c) 1,5,4,3,2   d) 3,4,5,2,1

PART B (10 x 2 = 20 Marks)

11.	Differentiate Business Analytics and business intelligence.	CO1	[K2]
12.	List out the parameters of a key process.	CO1	[K1]
13.	What is meant by Key Performance Indicators.	CO1	[K3]
14.	List any two points in support of the role governance in business process management.	CO2	[K1]
15.	List any two points in support of the role of business process modelling in business process management.	CO2	[K1]
16.	List the symbols used in BPMN under flow object category.	CO3	[K1]
17.	Classify resources on the basis of ownership.	CO4	[K1]
18.	List any two important characteristics of operational strategy.	CO4	[K2]
19.	What is meant by resource flexibility.	CO5	[K2]
20.	List down the parameter to decide the fortune 500 companies.	CO5	[K1]

PART C (10 x 5 = 50 Marks)

21.	List and brief about the architectural domains of business analytics.	CO1	[K2]
22.	List down the four basic viewpoints to take with the KPI balanced scorecard.	CO1	[K2]
23.	What is SIPOC diagram.	CO2	[K2]
24.	List down goals and measurables of Analyze phase of DMAIC.	CO2	[K1]
25.	List down the seven best resource capacity planning practices.	CO3	[K1]
26.	How does specialization affect resource capacity planning?	CO3	[K2]
27	List down the tools used in control phase of DMAIC.	CO4	[K1]
28	List down the goals of control phase of DMAIC.	CO4	[K1]
29	List the top five fortune 500 companies in India and write any one highlight of the company.	CO5	[K1]
30	Customer engagement strategy is one of important components of operational strategy- comment.	CO5	[K2]

Answer any TWO Questions
PART D (2x 10 = 20 Marks)

31.	Explain with examples the types of performance metrics used to assess the performance of a business process.	CO1	[K2]
32	Analyze critically the Business process management life cycle with example	CO2	[K2]
33.	Explain the various levels of getting Lean six sigma green belt certification	C05	[K2]

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