

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Term Examination, December 2020

Course: Service Operations

Semester: V

Program: BBA LM

Time: 03 Hours

Course code: LSCM2004P

Max. Marks: 100

SECTION A(30 Marks)

1. Each Question carries 5 Marks

2. Instruction: Complete the statement / Select the correct answer(s)

| | | CO |
|-----|--|-------------|
| Q 1 | As per the Service Dominant approach, Service is the fundamental basis of _____. All economic and social actors are _____. | CO 1 |
| Q 2 | The service classification based on low degree of labor intensity and low degree of customization is termed a. Mass Service b. Service Factory c. Service Shop d. Professional Service | CO 1 |
| Q 3 | The competitive strategy that rests on the premise of serving its narrow target market more effectively and/or efficiently than other firms trying to serve a broad market is called a. Differentiation Strategy b. Cost Leadership Strategy c. Convergent Strategy d. Focus Strategy | CO 2 |
| Q 4 | According to Chase and Hayes framework, Services that are not satisfied with just meeting customer expectations, but acting proactively to delight customers are called a. Distinctive Competence Achieved b. World Class Service Delivery. c. Journeyman d. Available for Service. | CO 1 |
| Q 5 | The Service offerings that were not previously available to customers or new delivery systems for existing services are called _____ innovations, whereas services whose outcome need not be a new service product but rather some degree of modification to an existing service are called _____ innovations. | CO 1 |
| Q 6 | Which of the following can come into intellectual property protection a. inventions for commercial purpose and protected by patents | CO 2 |

| | <ul style="list-style-type: none"> b. a distinctive sign which is used to prevent confusion among products in the marketplace c. the appearance, style, or industrial design d. any information concerning the practices or proprietary knowledge of a business | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|-------------|---------------------|-------------|---|----|---|---|----|----|---|----|----------------|----|----|----|---|---|------|-------------|---|---|----|-------------|
| SECTION B (50 Marks) | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>1. Each question carries 10 marks 2. Instruction: Write short / brief notes</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| Q 7 | Discuss the Structural and Managerial Design Elements in New Service Design with suitable examples | CO 2 | | | | | | | | | | | | | | | | | | | | | | |
| Q8 | Discuss various E-Business Models with suitable examples | CO 1 | | | | | | | | | | | | | | | | | | | | | | |
| Q9 | A flower and gift shop follows a standard procedure to make bouquet on the new year occasion. Though customers can ask for different assortments, the time it takes to assemble a bouquet is 7 minutes. If the shopkeeper wants to limit the number of customers in the process to around 5 and the maximum time a customer is in the process should be on average 10 minutes, how many staff should he deploy? | CO 3 | | | | | | | | | | | | | | | | | | | | | | |
| Q10 | <p>A stenographer is audited for the spelling mistakes she does in typing. At some intermediate point, 10 samples of office letters of single page size have been taken (Table below) and number of spelling mistakes are noted. Construct a quality control chart for the process.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Sample No.</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> </tr> <tr> <td>No. of Defects</td> <td>10</td> <td>9</td> <td>10</td> <td>4</td> <td>6</td> <td>2</td> <td>3</td> <td>9</td> <td>8</td> <td>11</td> </tr> </table> | Sample No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | No. of Defects | 10 | 9 | 10 | 4 | 6 | 2 | 3 | 9 | 8 | 11 | CO 3 |
| Sample No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | | | | | | | | | |
| No. of Defects | 10 | 9 | 10 | 4 | 6 | 2 | 3 | 9 | 8 | 11 | | | | | | | | | | | | | | |
| Q 11 | <p>A service system follows assembly line approach. If the workers are multi-skilled and can perform all the tasks from A to H and service production process requires 24 customers to be served per 8-hour shift, find the theoretical minimum number of workstations and actual balanced design.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Task</th> <th>Task Time (minutes)</th> <th>Predecessor</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>10</td> <td>-</td> </tr> <tr> <td>B</td> <td>12</td> <td>-</td> </tr> <tr> <td>C</td> <td>4</td> <td>A</td> </tr> <tr> <td>D</td> <td>20</td> <td>A</td> </tr> <tr> <td>E</td> <td>8</td> <td>A, B</td> </tr> </tbody> </table> | Task | Task Time (minutes) | Predecessor | A | 10 | - | B | 12 | - | C | 4 | A | D | 20 | A | E | 8 | A, B | CO 3 | | | | |
| Task | Task Time (minutes) | Predecessor | | | | | | | | | | | | | | | | | | | | | | |
| A | 10 | - | | | | | | | | | | | | | | | | | | | | | | |
| B | 12 | - | | | | | | | | | | | | | | | | | | | | | | |
| C | 4 | A | | | | | | | | | | | | | | | | | | | | | | |
| D | 20 | A | | | | | | | | | | | | | | | | | | | | | | |
| E | 8 | A, B | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | |
|--|--|---|----|------|--|--|
| | | F | 15 | D | | |
| | | G | 5 | E, F | | |
| | | H | 5 | G | | |

Section C (20 Marks)

1. Each Question carries 20 Marks.

2. Instruction: Attempt only one question.

Q 12

Question A: A fast-food restaurant is interested in studying its arrival of customers. During the busy lunch period, they have observed an average of 25 customers arriving per hour Poisson distributed.

- i. If a customer has just entered the store, what is the probability of another arrival in the next 10 minutes?
- ii. What is the probability of two customers arriving in a five-minute window?

OR

Question B: Lake Travis has one launching ramp near the dam for people who trailer their small boats to the recreational site. A study of cars arriving with boats in tow indicates a Poisson distribution with a mean rate of 7 boats per hour during the morning launch. A test of the data collected on launch times suggests that an exponential distribution with a mean of 6 minutes per boat is a good fit. If the other assumptions for an $M/M/1$ model apply (i.e., infinite calling population, no queue length restrictions, no balking or reneging, and FCFS queue discipline), then calculate the system characteristics (i.e.. average queue length, average number of boat in system, waiting time in queue, and waiting time in system)..

CO 4