

Trim: June – Sep 24		
Maximum Marks: 50 Examination: ETE Exam Date: 13/11/2024 Duration: 2 Hours		
Programme Code: 06 Programme: MBA-HCM	Class: FY	Semester/Trimester: I
College: K. J. Somaiya Institute of Management	Name of the Department/Section/Center: DST	
Course Code: 317P06C109	Name of the Course: Spreadsheet for Data Analytics	
<p>Instructions:</p> <ol style="list-style-type: none"> Section A is Compulsory & carries 20 Marks. Attempt Any Three Questions from Section B Each Question in Section B carries 10 Marks. Answer in Ascending Order only. 		

SECTION A

Question No.		Max. Marks																																										
Q1A	<p>You are provided with the following data of patient satisfaction scores (out of 100) for five departments of a hospital over the last six months:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Department</th> <th style="text-align: center;">Apr</th> <th style="text-align: center;">May</th> <th style="text-align: center;">Jun</th> <th style="text-align: center;">Jul</th> <th style="text-align: center;">Aug</th> <th style="text-align: center;">Sep</th> </tr> </thead> <tbody> <tr> <td>Cardiology</td> <td style="text-align: center;">82</td> <td style="text-align: center;">75</td> <td style="text-align: center;">88</td> <td style="text-align: center;">90</td> <td style="text-align: center;">85</td> <td style="text-align: center;">92</td> </tr> <tr> <td>Neurology</td> <td style="text-align: center;">79</td> <td style="text-align: center;">81</td> <td style="text-align: center;">84</td> <td style="text-align: center;">86</td> <td style="text-align: center;">89</td> <td style="text-align: center;">87</td> </tr> <tr> <td>Paramedical</td> <td style="text-align: center;">70</td> <td style="text-align: center;">68</td> <td style="text-align: center;">75</td> <td style="text-align: center;">72</td> <td style="text-align: center;">76</td> <td style="text-align: center;">73</td> </tr> <tr> <td>Oncology</td> <td style="text-align: center;">85</td> <td style="text-align: center;">88</td> <td style="text-align: center;">91</td> <td style="text-align: center;">89</td> <td style="text-align: center;">92</td> <td style="text-align: center;">95</td> </tr> <tr> <td>Outpatient</td> <td style="text-align: center;">78</td> <td style="text-align: center;">80</td> <td style="text-align: center;">82</td> <td style="text-align: center;">84</td> <td style="text-align: center;">83</td> <td style="text-align: center;">86</td> </tr> </tbody> </table> <p>a) In a new column next to each department, calculate the minimum, maximum and average patient satisfaction scores for each department over the six months.</p> <p>b) Apply conditional formatting to the entire table so that:</p> <ul style="list-style-type: none"> ● Values above 90 are highlighted in green. ● Values between 85 and 90 are highlighted in yellow. ● Values between 80 and 85 are highlighted in blue. ● Values between 75 and 80 are highlighted in orange. ● Values below 75 are highlighted in red <p>c) Which department has the highest and the lowest overall patient satisfaction scores for the six months?</p>	Department	Apr	May	Jun	Jul	Aug	Sep	Cardiology	82	75	88	90	85	92	Neurology	79	81	84	86	89	87	Paramedical	70	68	75	72	76	73	Oncology	85	88	91	89	92	95	Outpatient	78	80	82	84	83	86	10
Department	Apr	May	Jun	Jul	Aug	Sep																																						
Cardiology	82	75	88	90	85	92																																						
Neurology	79	81	84	86	89	87																																						
Paramedical	70	68	75	72	76	73																																						
Oncology	85	88	91	89	92	95																																						
Outpatient	78	80	82	84	83	86																																						
Q1B	Use the sheet mentioned in Q1A to create a pivot table and pivot chart.	10																																										

SECTION B

Question		Max.
-----------------	--	-------------

Nos.		Marks						
Q2	<p>Use data from Q1A for the following:</p> <p>a) Sort the scores for April in descending order.</p> <p>b) Create an additional column that groups each department as "Consistent" or "Inconsistent" based on the average.</p> <ul style="list-style-type: none"> • If the average is less than 85, label the department as "Inconsistent". • If the average is 85 or more, label it as "Consistent". <p>c) Rank each department based on its average satisfaction score. The highest average score should have a rank of 1. Place the rank in a new column.</p> <p>d) Calculate how many times each department scored above 85 (a threshold for high satisfaction) in the six months. Add this count as a new column next to the rank.</p> <p>e) Create a bar chart to visualise the monthly scores for each department, showing trends over time.</p>	10						
Q3	<p>Oxygen storage data in the cylinder is provided below:</p> <table border="1" data-bbox="376 768 1251 882"> <tr> <td>Total Capacity (Liters) in Oxygen Cylinder</td> <td>300</td> </tr> <tr> <td>Current Volume Capacity (Liters) in Oxygen Cylinder</td> <td>100</td> </tr> <tr> <td>Percentage (%) of the Total Capacity</td> <td></td> </tr> </table> <p>a) Calculate the current percentage (%) of the total capacity.</p> <p>b) Calculate the volume capacity for 70%, 75%, 80%, 85% and 90% of the total capacity using goal seek. Show all the results separately.</p>	Total Capacity (Liters) in Oxygen Cylinder	300	Current Volume Capacity (Liters) in Oxygen Cylinder	100	Percentage (%) of the Total Capacity		10
Total Capacity (Liters) in Oxygen Cylinder	300							
Current Volume Capacity (Liters) in Oxygen Cylinder	100							
Percentage (%) of the Total Capacity								
Q4	<p>a) The hospital currently operates with the following financial data:</p> <ul style="list-style-type: none"> • Revenue per patient: ₹8,000 • Number of patients per month: 1,200 <p>b) The formula to calculate the Total Revenue: Total Revenue = Revenue per patient × Number of patients</p> <p>c) The table should examine the following ranges: Revenue per patient: ₹6,000, ₹7,000, ₹8,000, ₹9,000 and ₹10,000 Number of patients: 800, 1,000, 1,200, 1,400 and 1,600</p> <p>d) Create a two-variable data table that shows the impact of different combinations of the Revenue per patient and Number of patients on the hospital's Total Revenue.</p>	10						
Q5	<p>a) Create five scenarios based on Total Revenue by changing the Revenue per patient and Number of patients for all five scenarios.</p> <p>b) The formula to calculate the Total Revenue: Total Revenue = Revenue per patient × Number of patients</p> <p>c) Revenue per patient should be more than ₹10,000 for all five scenarios.</p> <p>d) The number of patients should be more than 2,000 for all five scenarios.</p> <p>e) Create a Scenario Summary.</p> <p>f) Mention the best scenario from the five scenarios.</p> <p>g) Mention the worst scenario from the five scenarios.</p>	10						