

COURSE CODE (CREDITS): 25BBWHS531

MAX. MARKS: 35

COURSE NAME: APPLIED MARKETING RESEARCH AND ANALYTICS

COURSE INSTRUCTORS: Anupriya Kaur

MAX. TIME: 2 hrs

*Note: (a) All questions are compulsory.*

Q.N	Question	CO	Marks
Q1	<p>GlowCare, an Indian skincare company, recently launched three variants of its new anti-pigmentation serum: Classic, Herbal, and Vitamin C Boost. The marketing team wants to understand whether these three variants create different levels of customer satisfaction. They conduct a pilot study with 90 customers (30 for each variant) and collect satisfaction scores on a 10-point scale. They are considering the use of Analysis of Variance (ANOVA) to evaluate this. <i>Why is ANOVA the appropriate statistical technique for GlowCare to use in this situation? Explain the theoretical rationale (no calculations needed). If the ANOVA test shows a significant difference, what would be the next theoretical step for the researchers, and why?</i></p>	CO2	6
Q2	<p>Businesses today collect vast behavioral data—from shopping baskets, app usage logs, web browsing patterns, loyalty programs, and digital payments. Managers often suspect that <i>hidden customer groups</i> exist within this data, but these groups cannot be defined in advance using simple demographics or assumptions.</p> <p><i>Which statistical technique may be useful for the same. Justify your answer and also suggest how the use of the technique can help frame better marketing strategies.</i></p>	CO5	6
Q3	<p>Explain the importance of marketing analytics for an educational platform and discuss how analyzing -learner and usage data can help the platform improve student acquisition, engagement, and retention, with reference to real-world EdTech marketing practices.</p>	CO3	5
Q4	<p>Refer the file cluster-exam. Using the variables- Undergrad_GPA,GMAT_score,acceptance_rate,salary_bonus,tuition_fees</p> <p>Perform hierarchical cluster and then k-means cluster. Report the following results in your answer sheet.</p> <ol style="list-style-type: none"> <li>1) Coefiecents of the number of clusters selected by you as per – Agglomeration schedule</li> <li>2) K-mean cluster results such as – Number of cases in each cluster, <i>F</i> and <i>sig</i> values of each variable and Final Cluster centers.</li> </ol>	CO5	7
Q5	<p>Refer the file discriminant-exam. Using the given variables perform discriminant analysis to predict performance as high performer or low performer. Report the following results in your answer sheet.</p> <ol style="list-style-type: none"> <li>Significant and non-significant variables</li> <li>Log determinants</li> <li>Strength of discriminant function</li> <li>Discriminant function equation</li> </ol> <p>Variables: selfcon, anxiety,absence,subtesta,subtestb</p>	CO3	6
Q6	<p>Refer the file discriminant-exam conduct anova analysis on qualification wise difference of means of –selfcon and anxiety. Report the mean values and Anova test <i>F</i> value and <i>sig</i>.</p>	CO5	5