Total No. of Questions – [06] Total No. of Printed Pages: 02

| G.R. No. | |
|---|---|

**MAY 2022 - ENDSEM EXAM**
**FINAL. YEAR B. TECH. (CIVIL) (SEMESTER - II)**
**COURSE NAME: BUSINESS ANALYTICS**
**COURSE CODE: IOEUA40184F**
**(PATTERN 2018)**

Time: [1Hr] [Max. Marks: 30]

**(*) Instructions to candidates:**
1) **Answer Q.1 OR Q.2, Q.3 OR Q.4, Q.5 OR Q.6.**
2) **Figures to the right indicate full marks.**
3) **Use of scientific calculator is allowed**
4) **Use suitable data where ever required**

| Question No. | Question Description | Marks | CO mapped | Blooms Taxonomy Level |
|---|---|---|---|---|
| Q.1 a | Simplify the use of Power BI Gateway in detail and also importance of Power BI Mobile. | 4 | 4 | Analyzing |
| Q.1 b | Justify the necessity of data transformation and also distinguish some advance data transformations in Power BI | 6 | 4 | Evaluating |
| | **OR** | | | |
| Q2 a | Identify the importance of Power BI Service | 4 | 4 | Applying |
| Q2 b | Simplify YTD QTD and MTD with suitable examples and develop DAX to calculate it | 6 | 4 | Analyzing |
| Q.3 a | Identify the significance of regression analysis with examples | 4 | 5 | Applying |
| Q.3 b | A study is conducted to determine whether students' first year GPA (Y) can be predicted by their ACT score (X). A random sample of n=120 freshmen from a small college were selected. The following EXCEL output gives the results of a simple linear regression on the data.<br>a. Develop the regression equation for predicting GPA as function of ACT score<br>b. Determine the predicted GPA for student scoring 20 on the ACT?<br>c. Relationship whether positive or negative between GPA and ACT exists?<br>d. Identify predictor and target variable? | 6 | 5 | Applying, Analyzing, Evaluating |

| | | | | |
|---|---|---|---|---|
| | **Regression Statistics** | | | |
| | Multiple R | 0.2695 | | |
| | R Square | 0.0726 | | |
| | Adjusted R Square | 0.0648 | | |
| | Standard Error | 0.6231 | | |
| | Observations | 120 | | |
| | ANOVA | | | |
| | | df | SS | MS | F | Significance F |
| | Regression | 1 | 3.5878 | 3.5878 | 9.2402 | 0.0029 |
| | Residual | 118 | 45.8176 | 0.3883 | | |
| | Total | 119 | 49.4055 | | | |
| | | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
| | Intercept | 2.11 | 0.3209 | 6.5880 | 0.0000 | 1.4786 | 2.7495 |
| | ACT(X) | 0.04 | 0.0128 | 3.0398 | 0.0029 | 0.0135 | 0.0641 |
| | **OR** | | | | | | |
| Q.4 a | Simply the significance of the term central tendency with examples | | | 4 | 5 | Analyzing |
| Q.4 b | A commercial real estate company is interested in the relationship between properties' rental prices (Y), and the following predictors: building age, expenses/taxes, vacancy rates, and square footage. The results for a regression are given below. | | | 6 | 5 | Applying, Analyzing, Evaluating |
| | **Regression Statistics** | | | | | |
| | Multiple R | 0.7647 | | | | |
| | R Square | 0.5847 | | | | |
| | Standard Error | 1.1369 | | | | |
| | Observations | 81 | | | | |
| | ANOVA | | | | | |
| | | df | SS | MS | F | P-value |
| | Regression | 4 | 138.3269 | 34.5817 | 26.7555 | 0.0000 |
| | Residual | 76 | 98.2306 | 1.2925 | | |
| | Total | 80 | 236.5575 | | | |
| | | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% |
| | Intercept | 12.2006 | 0.5780 | 21.1099 | 0.0000 | 11.0495 | 13.3517 |
| | age | -0.1420 | 0.0213 | -6.6549 | 0.0000 | -0.1845 | -0.0995 |
| | exp/tax | 0.2820 | 0.0632 | 4.4642 | 0.0000 | 0.1562 | 0.4078 |
| | vacancy | 0.6193 | 1.0868 | 0.5699 | 0.5704 | -1.5452 | 2.7839 |
| | sqfoot | 0.0000 | 0.0000 | 5.7224 | 0.0000 | 0.0000 | 0.0000 |
| | a. Relationship between rental rate and any of these predictors? Interpret the strength of the relationship?<br>b. Conclude the regression equation.<br>c. Determine properties rental prize for 10years old building with 0 tax, 2 vacancy and 500Sq.ft area.<br>d. Identify predictor and target variable. | | | | | |
| Q.5 a | Distinguish the importance of Tableau architecture with neat diagram? | | | 4 | 6 | Analyzing |
| Q.5 b | Justify the Business analytics role in detail played in HR management. | | | 6 | 6 | Evaluating |
| | **OR** | | | | | |
| Q.6 a | Simplify the significance of all tableau products. | | | 4 | 6 | Analyzing |
| Q.6 b | Justify Business analytics role in detail played in educational industry. | | | 6 | 6 | Evaluating |