

JAMIA HAMDARD
MBA 3rd Semester Examination 2018
Planning and Control of Operations
MBA-GE-OT-01

TIME: 3 hrs

MM: 75

All questions carry equal marks.
Attempt any FIVE questions.

Note: All questions and its part carry equal marks.

Q.1 a) What is “Process Planning”? Explain the factors that must be evaluated during the “Make or Buy” decision.

b) What is “Capacity Planning”? Explain the three basic strategies for the timing of capacity expansion in relation to a steady growth in demand.

Q.2 a) What is “Project Control”? Explain the key elements of project control.

b) What is RAM? How do we develop RAM explain with the help of a suitable example?

Q.3 a) Name and explain the computerised software which is used for inventory control and production system. When do we use this software, explain with the help of suitable example.

b) What is ERP? What are the benefits of using ERP? Explain any four modules of ERP with the help of an example.

Q.4 What is time series and its components? How will you explore data pattern with auto correlation analysis?

Q.5 A corporation owns several components. The strategic planner for the corporation believes dollars spent on advertising can to some extent be a predictor of total sales dollars. As an aid in long-term planning, she gathers the following sales and advertising information from several of the companies 2017. (\$ millions)

Advertising	12.5	3.7	21.6	60	37.6	6.1	16.8	41.2
Sales	148	55	338	994	541	89	126	379

i) Develop the equation of the simple regression line to predict sales from advertising expenditures using these data.

ii) Test the slope of the regression line.
 $H_0: \beta_1 = 0$, $H_a: \beta_1 \neq 0$

Q.6 Use the following computer output to determine the best fitting regression equation for these data:

Regression Analysis

The Regression Equation is $Y = -45.8 + 0.597 X_1 + 1.18 X_2 + 0.405 X_3$

Predictor	Coef	Stdev	t-ratio	p
Constant	-45.796	4.878	-9.39	0.00
X ₁	0.59697	0.08112	7.36	0.00
X ₂	1.17684	0.08407	14.00	0.00
X ₃	0.40511	0.04223	9.59	0.00

s = 0.2861 R-sq = 98.3%

Analysis of Variance

Source	DF	SS	MSM	F	P
Regression	3	29.1088	9.7029	118.52	0.00
Error	6	0.4912	0.0819		
Total	9	29.600			

- What percentage of the total variation in Y is explained by this equation.
- Give an approximate 95% confidence interval for the values of X₁, X₂ and X₃ are \$ 4300, 1500 and 7500.

Q.7 i) List the assumptions underlying the method of ordinary least square (OLS)
ii) Explain different forms of regression model.

Q.8 i) List the possible search procedures to develop a multiple regression model.
ii) Explain stepwise Regression Method.