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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY
WAKNAGHAT, SOLAN (H.P.)
B.Tech. (III Semester, All Branches) Test-2, October 2018

COURSE CODE: 10B11PD311 MAX MARKS: 25
COURSE NAME: MANAGERIAL ECONOMICS
CREDIT: 3 MAX TIME: 1 Hr 30 mins

Note: *All questions are compulsory. Carrying of mobile phone in the Examination Hall will be treated as a case of unfair means.*

Q1. The production function of a mobile phone manufacturer is Q=25LK where Q is the quantity of mobile phones produced in the month, L is the number of workers employed, and K is the number of machines used in the production. The monthly wage rate is given as $3000 per worker and the monthly rental rate for a machine is $6000. Currently the company employs 25 workers and 40 machines.

a) Does the function show increasing, decreasing or constant returns to scale?
b) Derive the marginal product of labor function and compute its value at the current input level.
c) Calculate the total cost and average cost at the current production level. **(1+2+1=4)** CO5

Q2. Estimate the regression equation for the relationship between advertising expenditure and sales value from the following data:

Year	**2001**	**2002**	**2003**	**2004**	**2005**
Advertising Expenditure	15	16	50	19	90
Sales	160	220	140	190	130

(4) CO6

Q3. Forecast the sales of ACM Ltd. based on the last ten years actual sales value given below. Use 3 year and 5 year moving average to get this forecast and show which of the two should be preferred.

Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Sales	230	276	328	388	453	526	605	690	779	873

(3) CO6

Q4. The long run production function of Efficient Enterprises is given by the equation $Q=5K^{0.4}L^{0.8}$. If the price of one unit of labor is 6 and capital is 8, derive the expansion path of the firm. How many units of labor and capital will be used to produce 200 units of output optimally. **(4)** CO5

Q5. a) Explain the law of diminishing marginal returns with the help of an example. CO1

b) How is the Delphi method superior to the expert opinion method of forecasting? CO6

c) How does the coefficient of determination R^2 test the regression relationship? **(3*2=6)** CO6

Q6. a) What is a Veblen good? Give an example of a Veblen good. CO3

b) Describe briefly the circular flow in an economy. CO1 **(2*2=4)**