UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December-22

Course: Managerial Economics   **Semester: I**
Program: MBA-ALL   **Course code: ECON7006**
Time: 03 Hours   **Max. Marks: 100**

SECTION A

1. Each Question will carry 2 Marks
2. Instruction: Select the correct answer(s)

		CO
Q1	When an individual's income falls, what happens to a person's demand for an inferior good?	**CO1**
Q2	When the price of a substitute of a commodity falls what happens to its demand?	**CO1**
Q3	A decrease in market supply will result in a shift of the supply curve in which direction?	**CO1**
Q4	Distinguish between inferior and normal goods	**CO1**
Q5	Give two reasons why managers need to study demand theory	**CO1**
Q6	Given Total Revenue function $TR = 6Q - Q^2$. Derive the marginal revenue function and plot both the functions for $Q = 0$ to $Q = 4$	**CO1**
Q7	What do you mean by an increase in demand and extension in demand?	**CO1**
Q8	Given the following total cost schedule. Derive the average and marginal cost schedule. 	Output	0	1	2	3	4
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TC	3	16	18	24	26		**CO1**
Q9	What do you mean by optimization? **Or** If demand equation is given by D=1000-P, and the supply equation is given by S=100+4P, equilibrium price would be A. 160 B. 180 C. 170 D. 140	**CO1**
Q10	Mention the equilibrium conditions of the firm's profit-maximizing level of output.	**CO1**

SECTION B

1. Each question will carry 5 marks
2. Instruction: Write short / brief notes

Q11.	"Managerial economics is the integration of Economic theory and Managerial practice for the purpose of facilitating decision making." Explain.	**CO2**
Q12.	Explain the degrees of elasticity with the help of examples. Based on elasticity, how will you define supplementary and complementary goods? Or	**CO2**

	Write a short note on relationship between revenue and Price elasticity of demand MR = AR (1-1/ep)	

Q13.	For the following total-profit function of a firm:
	$$\Pi = 80x - 2x^2 - xy - 3y^2 + 100y$$
	and the Constraint function; $x + y = 12$
	Determine the level of output of each commodity at which the firm maximizes its total profit.
	
	or
	
	Adam is the owner of a small grocery store in a busy section of Boulder, Colorado. Adam's annual revenue is \$200,000 and his total explicit cost (Adam pays himself an annual salary of \$30,000) is \$180,000 per year. A supermarket chain wants to hire Adam as its general manager for \$60,000 per year.
	    A. What is the opportunity cost to Adam of owning and managing the grocery store?
	    B. What is Adam's accounting profit?
	    C. What is Adam's economic profit
		CO2

Q14.	Explain the price output determination under perfectly competitive market. What are the features of perfect competition? **Or** Explain Firm equilibrium under Perfect Competitive Market and Monopoly Market with help of Diagram.	**CO2**
SECTION-C		

1. Each Question carries 10 Marks.
2. Instruction: Write long answer

Q 15.	A firm estimated a demand function for their mugs:
	
	$$D_m = 1.25Y - 0.8P_m + 0.5D_c - 0.1P_c$$
	
	    a. Where D stands for demand, Y is income growth, P is the price, m is mugs, and c is coffee. (a) What is the price and income elasticity of demand estimates for mugs?
	
	    b. (b) How do we estimate the cross-price elasticity between coffee mugs and coffee? Are they complementary goods or substitute goods?
		CO3

Q16.	A firm's production function is given by
	$$Q = L^2 + 10LK + K^2,$$
	and its cost function is given by
	$$TC = 5L + 20K$$
	    a. What is the maximum quantity the firm can produce for a cost of Rs. 1150?
	    b. What quantities of capital and labor should it use?
	Or
	
	Explain producer equilibrium with help of Iso-quant curve and Iso-Cost Curve. Illustrate your answer with help of Diagram.
		CO3

Q17.	For the following total-revenue and total cost function of a firm:
	$$TR = 22Q - 0.5Q^2$$
	$$TC = \frac{1}{3}Q^3 - 8.5Q^2 + 50Q + 90$$
	    a. Determine the level of output at which the firm maximizes its total profit.
	    b. Determine the maximum profit that the firm could earn.
		CO3

SECTION-D

1. Each Question carries 15 Marks.
2. Instruction: Write long answer

Q1

Case Study

As we ring in the New Year, let's take stock of where we are at with the oil markets. 2014 proved to be a momentous one for the oil markets, having seen prices cut in half in just six months.

The big question is what oil prices will do in 2015. Oil prices are unsustainably low right now – many high-cost oil producers and oil-producing regions are currently operating in the red. That may work in the short-term, but over the medium and long-term, companies will be forced out of the market, precipitating a price rise. The big question is when they will rise, and by how much.

So, what does that mean for oil prices in 2015? It is anybody's guess, but here are the top five variables that will determine the trajectory of oil prices over the next 12 months, in no particular order.

1. China's Economy. China is the second largest consumer of oil in the world and surpassed the United States as the largest importer of liquid fuels in late 2013. More importantly for oil prices is how much China's consumption will increase in the coming years. According to the EIA, China is expected burn through 3 million more barrels per day in 2020 compared to 2012, accounting for about one-quarter of global demand growth over that timeframe. Although there is much uncertainty, China just wrapped up a disappointing fourth quarter, capping off its slowest annual growth in over a quarter century. It is not at all obvious that China will be able to halt its sliding growth rate, but the trajectory of China's economy will significantly impact oil prices in 2015.

CO4

2. American shale. By the end of 2014, the U.S. was producing more than 9 million barrels of oil per day, an 80 percent increase from 2007. That output went a long way to creating a glut of oil, which helped send oil prices to the dumps in 2014. Having collectively shot themselves in the foot, the big question is how affected U.S. drillers will be by sub-$60 WTI. Rig counts continue to fall, spending is being slashed, but output has so far been stable. Whether the industry can maintain output given today's prices or production begins to fall will have an enormous impact on international supplies, and as a result, prices.

3. Elasticity of Demand. The cure for low prices is low prices. That cliché can be applied to both the supply and demand side of the equation. Will oil selling at fire sale prices spur renewed demand? In some countries where oil is more regulated, low prices may not trickle down to the retail level. Countries like Indonesia are scrapping, which will be a boon to state coffers but will diminish the benefits to consumers. However, in the U.S., gasoline prices are now below $2.40 per gallon, more than 35 percent down from mid-2014. That has led to an uptick in gasoline consumption. In the waning days of 2014, the U.S. consumed gasoline at the highest daily rate since 2007. Low prices could spark higher demand, which in turn could send oil prices back up.

4. OPEC's Next Move. OPEC deserves a lot of credit (or blame) for the remarkable downturn in oil prices last year. While many pundits have declared OPEC irrelevant after their decision to leave output unchanged, the mere fact that oil prices crashed after the cartel's November meeting demonstrates just how influential they are over price swings. For now OPEC – or, more accurately, Saudi Arabia – has stood firm in its insistence not to cut production quotas. Whether that remains true through 2015 is up in the air.

5. Geopolitical flashpoints. In the not-too-distant past, a small supply disruption would send oil prices skyward. In early 2014, for example, violence in Libya blocked oil exports, contributing to a rise in oil prices. In Iraq, ISIS overran parts of the country and oil prices shot up on fears of supply outages. However, since then, geopolitical flashpoints have had much less of an effect on the price of crude. During the last few weeks of 2014, violence flared up again in Libya. However, after a brief increase in prices, the markets shrugged off the event. Nevertheless, history has demonstrated repeatedly that geopolitical crises are some of the most powerful short-term movers of oil prices.

Q18.	In light of the above, discuss the factors, which affect oil prices.	CO4
Q19.	Give some managerial suggestions on how the oil prices can be stabilized?	CO4
	OR	
Q18	How is Break- even point different from profit maximization Point? Using non- linear cost and revenue function curve illustrate break- even point and profit maximization level of output.	CO4

Q.19	Using a Regression equation estimate the demand function for the new cotton shirt introduced by a garment company and sold in different cities in India. The data regarding price charged and quantity sold in different cities are follows.	

Cities	1	2	3	4	5	6	7	8	9	10
Price Charged (Rs.)	50	50	55	60	65	70	80	85	90	40
Quantity sold (in thousands unis)	20.0	21.0	19.50	19.0	16.0	14.50	13.50	12.0	11.50	18.0

CO4

Interpret the value of intercept tram β_0 and β_1 coefficient of the estimated regression equation $Y = \beta_0 + \beta_1 x$. What is the price elasticity of demand at price of Rs. 60 per shirt?