Roll No.														

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING

TEST 1

Sem: Odd Sem 2019-20 | **Date:** 01.10.2019

Course Code: MGT 112 | **Time:** 11.00AM to 12.00PM

Course Name: ENGINEERING ECONOMICS | **Max Marks:** 40

Program & Sem: BTech. (CIV/CSE) & V | **Weightage:** 20%

Instructions:

(i) Read the questions properly and answer accordingly.

(ii) Non programmable calculator is allowed.

Part A [Memory Recall Questions]

Answer all the Questions. Each Question carries four marks. **(3Qx4M=12)**

1. Define Engineering Economics (C.O.NO.1)[Knowledge]
2. State the principles of engineering economics. (C O.NO.1)[Knowledge]
3. Explain the concept of Production Possibility Curve (PPC)?

   (C.O.NO.1)[Comprehension]

Part B [Thought Provoking Questions]

Answer both the Questions. Each Question carries eight marks. **(2Qx8M=16M)**

4. Explain Law of demand with the help of a demand schedule graph and assumptions (C.O.NO.1)[Knowledge]

5. Explain the concept of "Movement along the demand curve" and "Shifts of the demand curve" with neat diagrams (C.O.NO.1)[Acknowledge]

Part C [Problem Solving Questions]

Answer the Question. This Question carries twelve marks (1Qx12M=12M)

6. You are provided with the following information

Engineering component	Original Price (Rs.)	New Price (Rs.)	Original demand (units)	New demand (units)
A	1000	1100	5000	4500
B	2000	1200	1000	1800
C	9000	9200	4000	3500
D	5000	6000	2500	2200

i) Find elasticity of demand for each component. [8M]

ii) Show that each component obeys the law of demand. [2M]

iii) Which component has the greatest elasticity, and which the least elasticity. [2M]

(C.O.NO.3)[Application]

SCHOOL OF ENGINEERING

TEST 1

Date: 1.10.2019

Semester: V

Time: 1 hour

Course Code: MGT 112

Max Marks: 40

Course Name:ENGINEERING ECONOMICS

Weightage: 40%

Extract of question distribution [outcome wise & level wise]

Q.NO.	C.O.NO	Unit/Module Number/Unit /Module Title	Memory recall type [Marks allotted] Bloom's Levels	Thought provoking type [Marks allotted] Bloom's Levels	Problem Solving type [Marks allotted]	Total Marks
			K	C	A	
1	1	1	4			4
2	1	1	4			4
3	1	1		4		4
4	2	2	8			8
5	3	2	8		8	8
6	3	2			8	12
	Total Marks					40

K =Knowledge Level C = Comprehension Level, A = Application Level

Note: While setting all types of questions the general guideline is that about 60%

Of the questions must be such that even a below average students must be able to attempt, About 20% of the questions must be such that only above average students must be able to attempt and finally 20% of the questions must be such that only the bright students must be able to attempt.

[I hereby certify that All the questions are set as per the above guide lines. Dr. Saisha B G]

Reviewers' Comments

Annexure- II: Format of Answer Scheme

SCHOOL OF ENGINEERING

SOLUTION

Date:

Semester: V

Time: 1 HOUR

Course Code: MGT 112

Max Marks: 40

Course Name:ENGINEERING ECONOMICS

Weightage: 20%

Part A (2Q x8 M = Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
1	Engineering economics involves the systematic evaluation of the economic merits of proposed solutions to engineering problems. To be economically acceptable (i.e., affordable), solutions to engineering problems must demonstrate a positive balance of long-term benefits over long-term costs, and they must also promote the well-being and survival of an organization	**4 Marks**	**7 Minutes**

2	Develop the alternatives 1. Focus on the difference 2. Use a consistent view point 3. Use a common unit of measure 4. Consider all relevant criteria 5. Make uncertainty explicit 6. Revisiting decisions.	4 Marks	7 minutes
3	Like an individual, a society as a whole, has limited resources. It has to decide what to produce witht he limited resources. It has to make a choice about the quantity of different commodities. Choice emanates from scarcity. Thus our choice is always constrained or limited by scarcity of resources. All such choices can be made with the help of PPC. (Student is expected to write the graph of PPC)	**4 marks**	**7 minutes**
	Part B		
4	Statement of the law: The law of demand is under Ceteris Paribus assumption, which means that only one variable is being changed while other things being equal or unchanged. The Law of Demand states that "if the price of a commodity falls, the quantity demanded of it will rise, and if the price of the commodity rises, its quantity demanded will decrease" Assumptions : 1) No change in the consumers' income 2) No change in consumers' tastes and 3) No changes in the prices of related goods 4) consumers have perfect knowledge of the market 5) consumers are rational human beings. Demand schedule and demand curve	**3 marks** **3 marks** **2 marks**	**12 minutes**

5			12 minutes
		2 marks	
		3 marks	
		3marks	

	Part C		
6	Engineering component A Unitary Elastic with numerical coefficient 1 Engineeringl component B is greater than one with numerical coefficient 2 Relatively elastic Engineering component C is greater than one with numerical coefficient 5.62 Relatively elastic. Engineering component D is less than unity with numerical coefficient 0.6 Relatively elastic Component C has the highest elasticity with 5.62 Component D has the lowest elasticity with 0.6 All components are obeying law of demand since there is inverse relationship Between price and quantity demanded.	**8 marks** **2 marks** **2 marks**	**15 minutes**

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GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING

TEST - 2

Sem & AY: Odd Sem 2019-20
Course Code: MGT 112
Course Name: ENGINEERING ECONOMICS
Program & Sem: B.Tech (CVE,CSE) & V

Date: 19.11.2019
Time: 11.00 AM to 12.00 PM
Max Marks: 40
Weightage: 20%

Instructions:

(i) Read the question properly and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and Non-programmable calculators are permitted

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Part A [Memory Recall Questions]

Answer all the Questions. Each Question carries four marks. (3Qx4M=12M)

1. Explain the Law of Supply with help of diagram. (C.O.NO.1) [Knowledge]
2. Define short run and long run Production function. (C.O.NO.1) [Knowledge]
3. Explain the relation between AC and MC. (C.O.NO.2) [Knowledge]

Part B [Thought Provoking Questions]

Answer both the Questions. Each Question carries eight marks. (2Qx8M=16M)

4. Describe the relationship between total product (TP), marginal product (MP) and average product (AP) in different stages of law of variable proportion? Specify in which stage producer would prefer to stay? (C.O.NO.3) [Comprehension]

5. Sri Balaji Engineering Ltd. Company furnishes the following information; (C.O.NO.3) [Application]

Annual Sales 40,000 units
Selling Price Rs. 10.00
VC (Per Unit) Rs. 5.00
TFC Rs. 80,000

On the basis of above information answer the following questions;
a) Find BEP in physical units and in terms of sales value in rupees. (4 Marks)
b) Show the amount of Variable Cost at BEP (2 Marks)
c) Profit made by the company at 40,000 units when the selling price is increased by 20%. (2 Marks)

Part C [Problem Solving Questions]

Answer the Question. The Question carries twelve marks. **(1Qx12M=12M)**

6. Calculate Fixed Cost(FC), Variable Cost(VC), Average Fixed Cost(AFC), Average Variable Cost(AVC), Average Total Cost(ATC), and Marginal Cost(MC) for each quantity: (C.O.NO.2) [Application]

QUANTITY (Q)	(TC) TOTAL COST(Rs)	FC	VC	AFC	AVC	ATC	MC
0	30						
1	50						
2	65						
3	80						
4	105						
5	150						
6	190						
7	240						
8	270						
9	300						
10	310						

SCHOOL OF ENGINEERING

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

Semester: V

Course Code: MGT112

Course Name: **Engineering Economics**

Date: 19th November 2019

Time: 1 Hour

Max Marks: 40

Weightage: 20%

Extract of question distribution [outcome wise & level wise]

Q.NO.	C.O.NO	Unit/Module Number/Unit /Module Title	Memory recall type [Marks allotted] Bloom's Levels			Thought provoking type [Marks allotted] Bloom's Levels			Problem Solving type [Marks allotted]			Total Marks
			K			C			A			
1	1	Second	4									4
2	1	Third	4									4
3	2	Third	4									4
4	3	Third				8						8
5	3	Third							8			8
6	2	Third							12			12
	Total Marks	40	12			16			20			40

K =Knowledge Level C = Comprehension Level, A = Application Level

Note: While setting all types of questions the general guideline is that about 60%

Of the questions must be such that even a below average students must be able to attempt, About 20% of the questions must be such that only above average students must

be able to attempt and finally 20% of the questions must be such that only the bright students must be able to attempt.

Annexure- II: Format of Answer Scheme

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

SCHOOL OF ENGINEERING

SOLUTION

Semester: V

Course Code: MGT112

Course Name: Engineering Economics

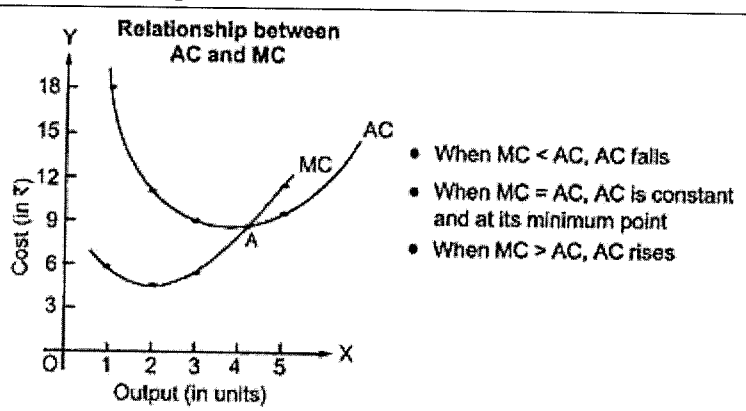
Date: : 19th November 2019

Time: 1 Hour

Max Marks: 40

Weightage: 20%

Part A (3Q X 4M = 12Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
1	The law of supply is the microeconomic law that states that, all other factors being equal, as the price of a good or service increases, the quantity of goods or services that suppliers offer will increase, and vice versa. Thelaw of supply says that as the price of an item goes up, suppliers will attempt to maximize their profits by increasing the quantity offered for sale	Law of Supply: 2 Marks Diagram: 2 Marks	5min.
2	SHORT-RUN PRODUCTION FUNCTION: Short run production function alludes to the time period, in which at least one factor of production is fixed LONG-RUN PRODUCTION FUNCTION: Long run production function connotes the time period, in which all the factors of production are variable.	SHORT-RUN PRODUCTION FUNCTION: 2 Marks LONG-RUN PRODUCTION FUNCTION2 Marks	5min.
3	 Fig. 6.9	Diagram: 2 Marks Relation: 2 Marks	5min.

Part B

(2Q X 8 M = 16 Marks)

<table>
<tr><th>Q No</th><th>Solution</th><th>Scheme of Marking</th><th>Max. Time required for each Question</th></tr>
<tr><td>4</td><td>Rational Stage: Stage II
<table>
<tr><th>Total Product</th><th>Marginal Product</th><th>Average Product</th></tr>
<tr><td>Stage I
First increases at increasing rate then at diminishing rate.

Stage II
Continues to increase at diminishing rate and becomes maximum.
Stage III
Diminishes</td><td>Increases in the beginning then reaches a maximum and begins to decrease.

Continues to diminish and becomes equal to zero.

Becomes negative.</td><td>First increases, continues to increase and becomes maximum.

Becomes equal to MP and then begins to diminish.

Continues to diminish but will always be greater than zero.</td></tr>
</table></td><td>Table: 4 Marks
Relation between Three stages: 3 marks

Rational Stage: 1 mark</td><td>10 min.</td></tr>
<tr><td>5</td><td>1) a)BEP in Physical Units: 16000 Units
b) BEP in Sales Value: Rs. 0.5
2) The amount of Variable Cost at BEP: 80000
3) Profit made by the company at 30,000 units when the selling price is increased by 20%: 1,20,000</td><td>1) 4 Marks
2) 2 Marks
3) 2 Marks</td><td>10 min.</td></tr>
</table>

Part C

(1Q X 12M = 12 Marks)

<table>
<tr><th>Q No</th><th>Solution</th><th>Scheme of Marking</th><th>Max. Time required for each Question</th></tr>
<tr><td>6</td><td>
<table>
<tr><th>QUANTITY (Q)</th><th>(TC) TOTAL COST(Rs)</th><th>FC</th><th>VC</th><th>AFC</th><th>AVC</th><th>ATC</th><th>MC</th></tr>
<tr><td>0</td><td>30</td><td>30</td><td>0</td><td></td><td>0</td><td></td><td></td></tr>
<tr><td>1</td><td>50</td><td>30</td><td>20</td><td>30</td><td>20</td><td>50</td><td>20</td></tr>
<tr><td>2</td><td>65</td><td>30</td><td>35</td><td>15</td><td>17.5</td><td>32.5</td><td>15</td></tr>
<tr><td>3</td><td>80</td><td>30</td><td>50</td><td>10</td><td>16.67</td><td>26.67</td><td>15</td></tr>
<tr><td>4</td><td>105</td><td>30</td><td>75</td><td>7.5</td><td>18.75</td><td>26.25</td><td>25</td></tr>
<tr><td>5</td><td>150</td><td>30</td><td>120</td><td>6</td><td>24</td><td>30</td><td>45</td></tr>
<tr><td>6</td><td>190</td><td>30</td><td>160</td><td>5</td><td>26.67</td><td>31.67</td><td>40</td></tr>
<tr><td>7</td><td>240</td><td>30</td><td>210</td><td>4.29</td><td>30</td><td>34.29</td><td>50</td></tr>
<tr><td>8</td><td>270</td><td>30</td><td>240</td><td>3.75</td><td>30</td><td>33.75</td><td>30</td></tr>
<tr><td>9</td><td>300</td><td>30</td><td>270</td><td>3.33</td><td>30</td><td>33.33</td><td>30</td></tr>
<tr><td>10</td><td>310</td><td>30</td><td>280</td><td>3</td><td>28</td><td>31</td><td>10</td></tr>
</table>
</td><td>FC: 2 Marks
VC: 2 Marks
AFC: 2 Marks
AVC: 2 Marks
ATC: 2marks
MC: 2 Marks</td><td>25 min</td></tr>
</table>

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PRESIDENCY UNIVERSITY
BENGALURU

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

SCHOOL OF ENGINEERING

END TERM FINAL EXAMINATION

Semester: Odd Semester: 2019 - 20 | **Date**: 27 December 2019

Course Code: MGT 112 | **Time**: 9:30 AM to 12:30 PM

Course Name: ENGINEERING ECONOMICS | **Max Marks**: 80

Program & Sem: B.Tech(CSE/CIV) & V | **Weightage**: 40%

Instruction:

(i) *Read the question properly and answer accordingly.*
(ii) *Question paper consists of 3 parts.*
(iii) Scientific and Non-programmable calculators are permitted

Part A [Memory Recall Questions]

Answer all the Questions. Each Question carries 1 mark. (10Qx1M=10M)

1) .....is known as Father of Economics. (C.O.N:1,2,3,4,5) [Knowledge]

2) Micro Economics is also known as.....theory.
3) Production possibility Curve is also known as.....Frontier
4) The cost which is never zero even when production is stopped is called.....cost.
5) The old name of Law of Variable Proportion is .....Returns
6) There is negative cross elasticity in case of .....goods.
7) The four factors of production are Land, Labour, Capital and.....
8) Suppose a firm produces 10 units of output and incurs Rs.30 per unit variable cost and Rs. 5 per unit fixed cost. In this total cost is.....
9) Quick Ratio is also known as.....Ratio
10) AVC + AFC =.....

Part B [Thought Provoking Questions]

Answer all the Questions. Each Question carries 10 marks. (5Qx10M=50M)

11) Calculate Future Value at the end of five years of the following series of payment @ 9% rate of interest. (C.O.No.2) [Application]

At the end of each year	Amount Deposited
1	Rs. 1000
2	Rs.2000
3	Rs.3000
4	Rs.4000
5	Rs. 5000

12) List out all types of Ratios. (C.O.No.3) [Comprehension]

SCHOOL OF ENGINEERING

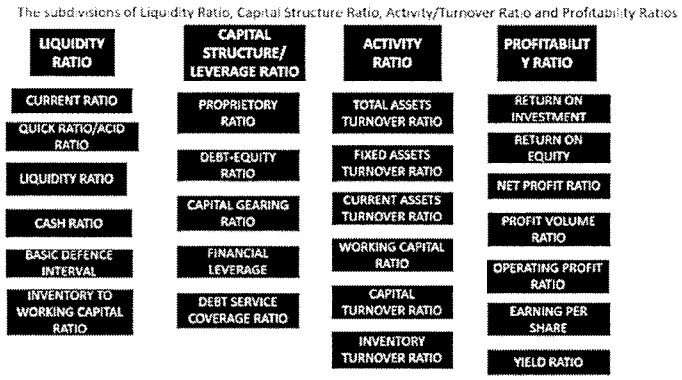
GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

SOLUTION

Semester: V
Course Code: MGT 112
Course Name:ENGINEERING ECONOMICS

Date: 00.12.2019
Time: 1 HOUR
Max Marks: 80
Weightage: 40%

Part A (2Q x8 M = Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
1 to 10 (Fill in Blanks	**Adam smith, Price, Production Possibility, Fixed, Law of Dinishing Returns, complimentary, Entrepreneurship/Orgn.,Liquid, AC/ATC**	**10 Marks**	**20 Minutes**
Part B			
11	Future Value Rs. 17,725	**10 marks**	**20 minutes**
12		**10 marks**	**10 minutes**

13	Depreciation is a measure of wearing out, consumption or loss of value of a depreciable asset arising from use, obsolescene through technology and market changes. Rs. 1,50,000 per annum is depreciation under straight line method.	**10 marks**	**10 minutes**
14	BEP in Physical units 6000 units, BEP in Sales Value Rs. 60,000 VC at BEP Rs. 39000 Profit Rs. 6000	**10 marks**	**30 minutes.**
15	Relatively Elastic Supply Relatively Inelastic Supply Unitary Elasticity Perfectly Inelastic Perfectly Elastic	**10 marks**	**20 minutes**
16	NPV Machine "A" Rs.5,32,850 Machine "B" Rs.5,27,650 IRR Machine "A" 47.42% Machine "B" 40.42%	**20 marks**	**30 minutes**
6		**12 MARKS (2 marks per cost concept)**	**12 minutes**

output	TFC	TVC	AC	MC	AVC	AFC	
0	360	--	360	--	--	360	
1	360	180	540	180	180	360	
2	360	240	300	60	120	180	
3	360	270	210	30	90	120	
4	360	315	169	45	79	90	
5	360	420	156	105	84	72	
6	360	630	165	210	105	60	