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**UNIVERSITI KUALA LUMPUR**  
**Malaysia France Institute**

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**FINAL EXAMINATION**  
**JANUARY 2011 SESSION**

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**SUBJECT CODE** : FFD 33302  
**SUBJECT TITLE** : PRODUCTION COSTING PRINCIPLES  
**LEVEL** : DIPLOMA  
**TIME / DURATION** : 12.30pm – 2.30pm  
( 2.0 HOURS )  
**DATE** : 09 MAY 2011

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**INSTRUCTIONS TO CANDIDATES**

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1. Please read the instructions given in the question paper **CAREFULLY**.
2. This question paper is printed on both sides of the paper.
3. Please write your answers on the answer booklet provided.
4. Answer should be written in blue or black ink except for sketching, graphic and illustration.
5. This question paper consists of **TWO (2)** sections. Section A and B. Answer all questions in Section A. For Section B, answer one (1) question only.
6. Answer all questions in English.

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**THERE ARE 4 PAGES OF QUESTIONS AND 1 PAGE OF APPENDIX, EXCLUDING THIS PAGE.**

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**SECTION A (Total: 60 marks)**

**INSTRUCTION: Answer all questions.**  
**Please use the answer booklet provided.**

**Question 1**

Capacity is the number of units a facility can hold, receive, produce or store in a period of time. The capacity affects a large portion of fixed cost, and can determine if demand will be met or if facilities will be idle. Describe what is the effective capacity of capacity planning?

(10 Marks)

**Question 2**

A company produces End Cap for two clients. The factory operates 250 days per year, with one eight-hour shift. Management believes that a capacity of 15% is the best. It currently has three machines. Based on the table, determine how many machines are needed to complete the End Cap fabrication?

Item	Client X	Client Y
Annual demand forecast (parts)	2000.00	6000.00
Standard processing time (hour/part)	0.50	0.70
Average lot size (part/batch)	20.00	30.00
Standard setup time (hours)	0.25	0.40

(20 Marks)

**Question 3**

The design capacity for grinding repair in our company is 80 grinder/day. The effective capacity is 40 grinder/day and the actual output is 36 grinder/day. Calculate the utilization and efficiency of the operation. If the efficiency for next month is expected to be 82%, what is the expected output?

(10 Marks)

**Question 4**

A key concept in cost assignment is whether costs have a direct or an indirect relationship to the particular cost object.

- a) Define what is the cost object and give three example (10 Marks)
- b) Define direct cost and indirect cost (8.Marks)
- c) Why do manager consider direct cost to be more accurate than indirect cost? (2 Marks)

**SECTION B (Total: 40 marks)**

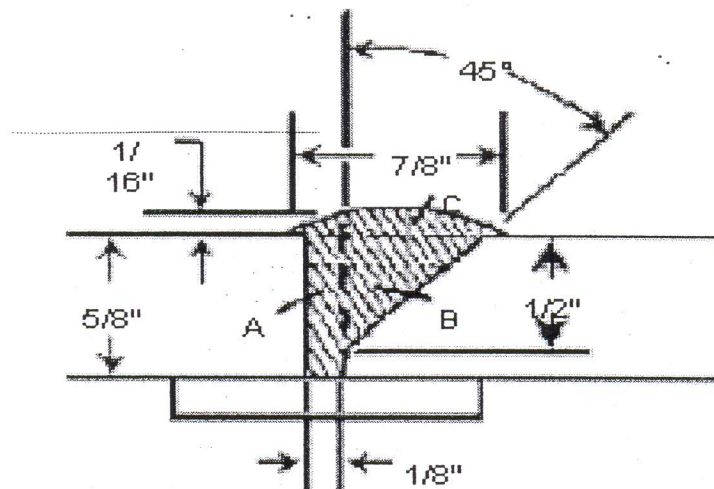
**INSTRUCTION: Answer ONE (1) question only.**

**Please use the answer booklet provided.**

**Question 1**

Calculate the cost of welding 1,280 ft. of a single bevel butt joint as shown in Figure 1 using the following data.

- i. Electrode - 3/16" diameter, 14" long, E7018, operated at 25 volts, 250 amps.
- ii. Stub Loss - 2 inches
- iii. Labor and Overhead - \$30.00/hr
- iv. Electrode Cost - \$.57/lb
- v. Power Cost - \$.045/kWh



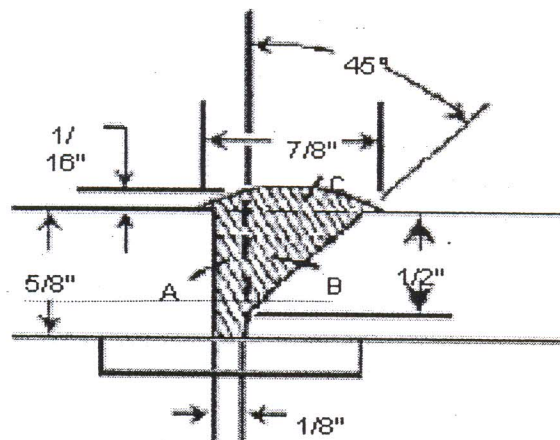
- Figure 1

- a. The cost of labor and overhead per pound of deposited weld (5 Marks)
- b. The cost of the electrode per pound of deposited weld metal (5 Marks)
- c. The cost of electrical power to deposit one pound of weld (5 Marks)
- d. The cost of depositing one pound weld metal (5 Marks)
- e. The cost per foot deposited weld metal (5 Marks)
- f. The cost of the weld for the total job (5 Marks)
- g. Total pounds of electrode required (5 Marks)
- h. Weld time required (5 Marks)

**Question 2**

Calculate the cost of welding for 740 ft. of a single bevel butt joint as shown in Figure 2.

- i. Electrode - 3/16" diameter, 14" long, E9018, operated at 25 volts, 300 amps.
- ii. Stub Loss - 2 inches
- iii. Labor and Overhead - \$40.00/hr
- iv. Electrode Cost - \$0.63/lb
- v. Power Cost - \$0.075/kWh



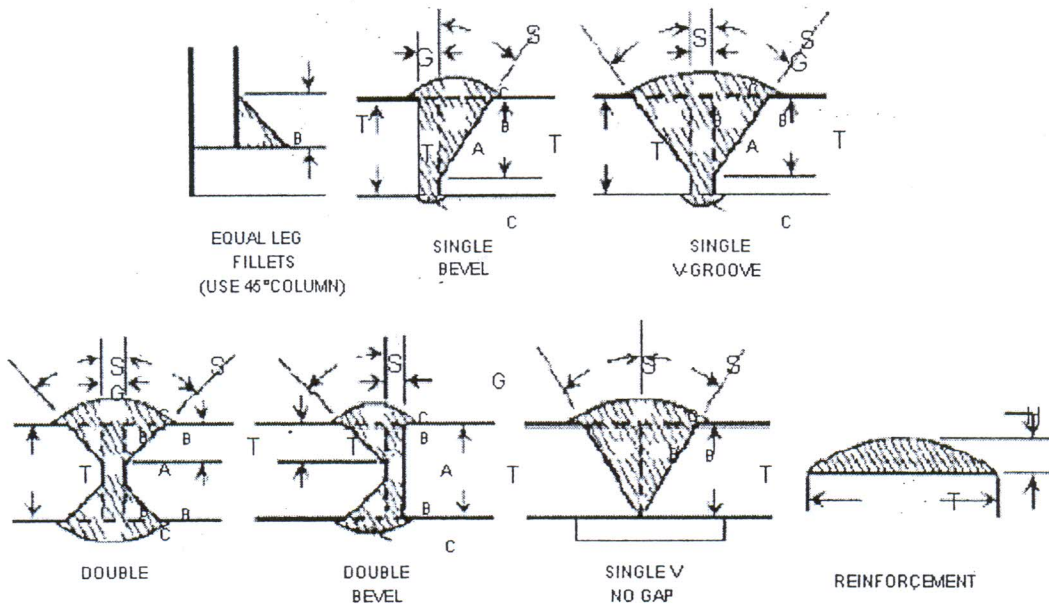
- Figure 2

- a. The cost of labor and overhead per pound of deposited weld (5 Marks)
- b. The cost of the electrode per pound of deposited weld metal (5 Marks)

- c. The cost of electrical power to deposit one pound of weld (5 Marks)
- d. The cost of depositing one pound weld metal (5 Marks)
- e. The cost per foot deposited weld metal (5 Marks)
- f. The cost of the weld for the total job (5 Marks)
- g. Total pounds of electrode required (5 Marks)
- h. Weld time required (5 Marks)



**Appendix 1**



T Inches	lbs./ft. of Rectangle A G							lbs./ft. of Triangle B S					lbs./ft. Reinforcement C H				
	1/16"	1/8"	3/16"	1/4"	3/8"	1/2"	5"	10"	15"	22 1/2"	30"	45"	1/16"	1/8"	3/16"	1/4"	
1/8	.027	.053	.080	.106	.159	.212	.002	.005	.007	.011	.015	.027					
3/16	.040	.080	.119	.159	.239	.318	.005	.011	.016	.025	.035	.060	.027				
1/4	.053	.106	.159	.212	.318	.425	.009	.019	.028	.044	.061	.106	.035				
5/16	.066	.133	.199	.265	.390	.531	.015	.029	.044	.069	.096	.166	.044	.884			
3/8	.080	.159	.239	.318	.478	.637	.021	.042	.064	.099	.138	.239	.053	.106			
7/16	.091	.186	.279	.371	.557	.743	.028	.057	.087	.129	.188	.325	.062	.124			
9/16	.106	.212	.318	.425	.637	.849	.037	.075	.114	.176	.245	.425	.071	.141	.212		
5/8	.119	.239	.358	.478	.716	.955	.047	.095	.144	.223	.311	.451	.080	.159	.239		
11/16	.133	.265	.398	.531	.796	1.061	.058	.117	.178	.275	.383	.564	.088	.177	.265	.354	
3/4	.146	.292	.438	.584	.876	1.167	.070	.142	.215	.332	.464	.684	.097	.195	.292	.389	
13/16	.159	.318	.478	.637	.995	1.274	.084	.169	.256	.396	.552	.804	.106	.212	.318	.424	
7/8	.172	.345	.517	.690	1.035	1.380	.098	.198	.301	.464	.648	1.121	.115	.230	.345	.460	
15/16	.186	.371	.557	.743	1.114	1.486	.114	.230	.349	.538	.751	1.300	.124	.248	.371	.495	
1	.199	.398	.597	.796	1.194	1.592	.131	.263	.400	.618	.863	1.493	.133	.266	.398	.530	
1 1/8	.212	.425	.637	.849	1.274	1.698	.149	.300	.456	.703	.981	1.698	.141	.283	.424	.566	
1 1/4	.239	.478	.716	.955	1.433	1.910	.188	.379	.577	.890	1.241	2.149	.159	.318	.477	.637	
1 3/8	.265	.531	.796	1.061	1.592	2.123	.232	.468	.712	1.099	1.532	2.653	.177	.354	.531	.707	
1 3/8	.292	.584	.876	1.167	1.751	2.335	.281	.567	.861	1.330	1.853	3.210	.195	.389	.584	.777	
1 1/2	.318	.637	.955	1.274	1.910	2.547	.334	.674	1.023	1.582	2.206	3.821	.212	.424	.637	.849	
1 5/8	.345	.690	1.035	1.380	2.069	2.759	.393	.792	1.201	1.857	2.589	4.484	.230	.460	.690	.920	
1 3/4	.371	.743	1.114	1.486	2.229	2.972	.455	.918	1.393	2.154	3.002	5.200	.248	.495	.743	.990	
2	.390	.796	1.194	1.592	2.388	3.184	.523	1.053	1.599	2.473	3.447	5.970	.266	.531	.796	1.061	
2 1/4	.425	.849	1.274	1.698	2.547	3.396	.594	1.197	1.820	2.813	3.921	6.792	.283	.566	.849	1.132	
2 1/4	.478	.955	1.433	1.910	2.865	3.821	.752	1.516	2.303	3.561	4.963	8.596	.318	.637	.955	1.273	
2 3/4	.530	1.061	1.592	2.123	3.184	4.245	.928	1.871	2.844	4.396	6.127	10.613	.354	.707	1.061	1.415	
2 3/4	.584	1.167	1.751	2.335	3.502	4.669	1.123	2.264	3.441	5.319	7.414	12.841	.389	.778	1.167	1.556	
3	.636	1.274	1.910	2.547	3.821	5.094	1.337	2.695	4.095	6.330	8.823	15.282	.424	.849	1.273	1.698	

END OF QUESTION