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CONFIDENTIAL

SET A

UNIVERSITI KUALA LUMPUR
Malaysia France Institute

FINAL EXAMINATION

JANUARY 2014 SESSION

SUBJECT CODE	:	**FIB 36103**
SUBJECT TITLE	:	**PROJECT MANAGEMENT**
LEVEL	:	**BACHELOR**
TIME / DURATION	:	**(2 ½ HOURS)**
DATE	:	

INSTRUCTIONS TO CANDIDATES

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 two (2) questions only.**
6. **Answer all questions in English.**

THERE ARE 8 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 60 marks)

INSTRUCTION: Answer ALL questions.
Please use the answer booklet provided.

Question 1

From the following network logic diagram I (AOA: Activity-On-Arrow format) as shown in **Figure 1**, (time in day):

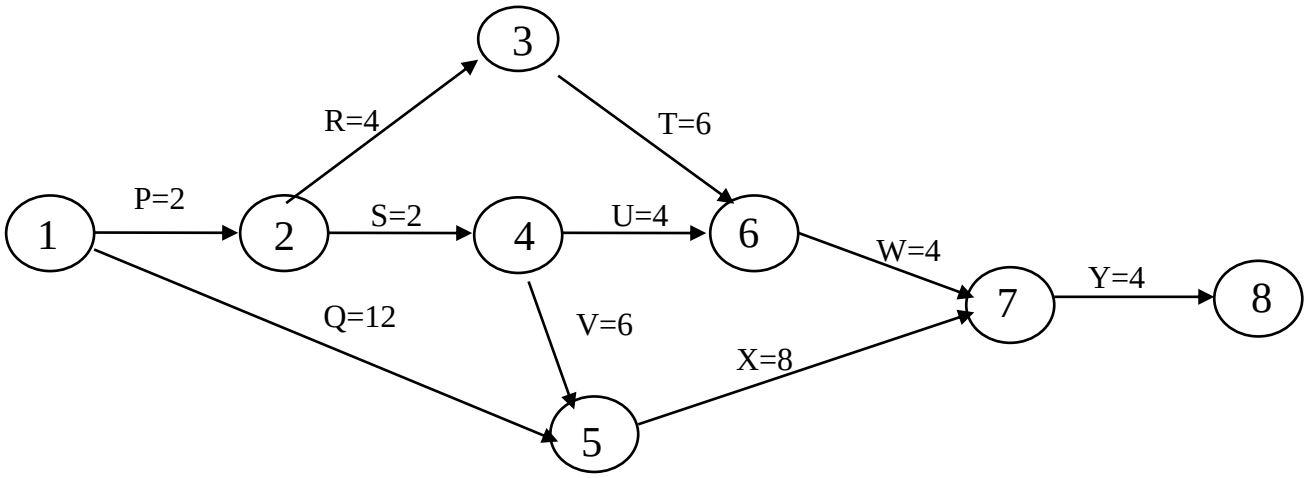

Figure 1 - Network logic diagram I (AOA)

(a) Answer the following questions:

i. List down all the possible path activities. (4 marks)

ii. Determine the Critical Path and calculate total duration of the project? (4 marks)

(b) Calculate Latest Occurrence Time (LOT), Earliest Occurrence Time (EOT) and Float for **Event** as tabulated in Table 1. (6 marks)

(c) Calculate Latest Starting Time (LST), Earliest Starting Time (EST) and Float for **Activity** as tabulated in Table 2. (6 marks)

(Note: *Students are required to copy Tables 1 and 2 into the answer booklet*)

Table 1 - LOT, EOT and Float for Event

Event	LOT	EOT	Float / Slack
1			
2			
3			
4			
5			
6			
7			
8			

Table 2 - LST, EST and Float for Activity

Activity	LST	EST	Float / Slack
P			
Q			
R			
S			
T			
U			
V			
W			
X			
Y			

Question 2

Given the optimistic estimate (t_o), most likely estimate (t_m) and pessimistic estimate (t_p) as shown in **Table 3**, based on the positively skewed beta probability distribution in PERT (Project Evaluation & Review Technique),

(a) Calculate:

i. Expected activity duration(t_e).

(4 marks)

ii. Standard deviation (σ_e) of the expected duration.

(2 marks)

iii. Variance $(\sigma_e)^2$ of the expected duration.

(2 marks)

(b) Assuming that the critical Path is **M-N-Q-T = 55 days**
(refer to **Appendix A1 and A2** – Areas under the standard normal curve):

i. What is the probability the project will be completed before the scheduled time (T_s) of 50 days (*nearest estimated number)?*

(4 marks)

ii. What is the probability the project will be completed before the scheduled time (T_s) of 57 days (*nearest estimated number)?*

(4 marks)

(Note: *Students are required to copy Table 3 in the answer booklet*)

(c) Describe two (2) main differences between "Critical Path Method" and "PERT – Program Evaluation Review Technique

(4 marks)

Table 3 – Time Scale

Activity	Optimistic time t_o	Most Likely time t_m	Pessimistic time t_p	EXPECTED TIME (t_e)	Standard Deviation σ_e	Variance $(\sigma_e)^2$
M	3	6	9			
N	6	9	24			
0	15	27	45			
P	2	5	14			
Q	17	29	47			
R	5	8	17			
S	4	10	28			
T	5	8	11			

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Appendix A1

AREAS UNDER THE STANDARD NORMAL CURVE
(Z – Negative Value)

Z VALUE	PROBABILITY	Z VALUE	PROBABILITY
-2.0	0.02	+2.0	0.98
-1.5	0.07	+1.5	0.93
-1.0	0.16	+1.0	0.84
-0.7	0.24	+0.7	0.76
-0.5	0.31	+0.5	0.69
-0.3	0.38	+0.3	0.62
-0.1	0.46	+0.1	0.54

Appendix A2

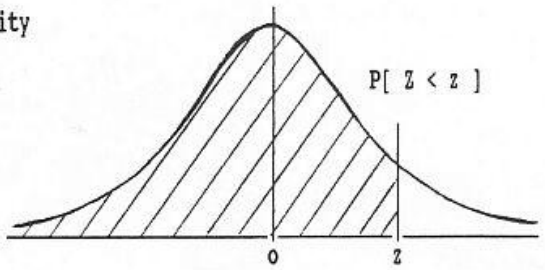
AREAS UNDER THE STANDARD NORMAL CURVE

STANDARD STATISTICAL TABLES

1. Areas under the Normal Distribution

The table gives the cumulative probability up to the standardised normal value z

i.e. $P[\ Z < z\ ] = \int_{-\infty}^{z} \frac{1}{\sqrt{2\pi}} \exp(-\frac{1}{2}Z^2)\ dZ$



z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5159	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7854
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8804	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9773	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9865	0.9868	0.9871	0.9874	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9924	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9980	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
z	3.00	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90
P	0.9986	0.9990	0.9993	0.9995	0.9997	0.9998	0.9998	0.9999	0.9999	1.0000

Question 3

(a) In Project Resource Allocation, briefly define the difference between "Normal" time/cost combination versus "Crash" time/cost combination

(4 marks)

(b) From the following CPM (Normal and Crash - time in day) as shown in **Table 4**:

i. Construct a network logic diagram (AOA format) and identify the critical path.

(4 marks)

ii. Determine the total duration and the total cost of the project (Normal time cost combination)?

(4 marks)

iii. By implementing the "Crash" time/cost combination:

a) demonstrate the reduction of total networking (using AOA diagram and Gantt chart) (4 marks)

b) propose the shortest total duration which can be reduced? (2 marks)

c) Calculate the total new cost of the project? (2 marks)

Table 4: CPM (Normal & Crash)

Activity	Precedence	Duration, Periods (normal, crash)	Cost (normal, crash)	Slope (Cost / Period)
A	-	3,2	RM 25,35	10/-1 = - 10
B	A	6,4	RM 40,80	40/-2 = - 20
C	A	10,9	RM 30, 45	15/-1 = - 15
D	A	11,7	RM 25, 75	50/-4 = - 12.5
E	B	8,6	RM 50, 80	30/-2 = - 15
F	C,D	5,4	RM 20, 35	15/-1 = - 15
G	E,F	6,6	RM 35,35	-

SECTION B (Total: 40 marks)

INSTRUCTION: Answer 2 (TWO) questions only

Please use the answer booklet provided.

Question 4

(a) In managing a project, describe factors which are necessary for a good project planning and implementation. (*Hint: "GO-CARTS" and: "DRIVER acronym)*

(6 marks)

(b) Describes four (4) key stakeholders in every projects

(4 marks)

(c) List down and describe three (3) important skills needed for an effective project manager?

(6 marks)

(d) Briefly describe at least two (2) potential conflict with two (2) methods used for dealing with conflict, in managing a project?

(4 marks)

Question 5

(a) Briefly define what is "RISKS" from the context of project?

(4 marks)

(b) Briefly describe four (4) major components of the "Risk Management" process.

(6 marks)

(c) Briefly describe four (4) common strategies and techniques to manage or to treat the risks.

(4 marks)

(d) Case Study: Your Malaysian local civil construction company is invited to participate in a joint venture "construction of a housing development project" with a local Middle East company, to in Dubai UAE.

Briefly, describe four (four) major risks that you probably encounter in this project?

(6 marks)

Quetion 6

(a) Describe four (4) major processes required in Project Cost Management in order to ensure that the project is completed within the approved budget? In each process, explain the process which involves using input, tool / techniques and output description.

(12 marks)

(b) Define what are Return of Investment (ROI) and Payback Period in project cost management. Provide one (1) example of calculation.

(8 marks)

END OF QUESTIONS