



<u>FACULTY:</u>	Faculty of Engineering and Built Environment.
<u>DEPARTMENT:</u>	Electrical & Electronic Engineering Technology
<u>CAMPUS:</u>	DFC
<u>MODULE:</u>	PJMELA3 PROJECT MANAGEMENT 3A
<u>SEMESTER:</u>	FIRST SUPPLEMENTARY

DATE: 18 JULY 2019 **TIME:** 11:30H- 14:30H

ASSESSOR(S): Ms. E.N NWOBODO-ANYADIEGWU

MODERATOR: PROF. O. SAMUEL

DURATION: 3 HOURS

MARKS: 100

WEIGHT: 50%

NUMBER OF PAGES: 5 PAGES (including Annexure 1 & 2)

INSTRUCTIONS TO CANDIDATES:

- Answer ALL questions.
- This is an open book assessment. Laptops and cellphones are not allowed.
- Question paper must be handed in.
- Leave margins and spaces between the questions.
- Show **all** your calculations.
- Unless otherwise indicated, express your answers correct to **two (2) decimal** places.
- Where appropriate, indicate the units of your answer. (e.g. Hour, R)
- Number your answers clearly.
- Write neatly and legibly
- **NOTE: Marks will be awarded for theoretical knowledge, application of the theory and use of relevant diagrams and examples.**

The general University of Johannesburg policies, procedures and rules pertaining to written assessments apply to this assessment.

Provide a brief background for a named single project of your choice; and answer the following questions with reference to your chosen project.

QUESTION 1

[30]

Develop the following documents for your chosen project:

- 1.1 A bankable business case for the project (10)
- 1.2 Project Charter (10)
- 1.3 Risk management plan (10)

QUESTION 2

[20]

In relation to Project management, discuss the following terms extensively; provide possible advantages of each and use appropriate examples:

- 2.1 Planning in phases (10)
- 2.2 Fast tracking (5)
- 2.3 Crashing (5)

QUESTION 3

[30]

3.1 An established South Africa petrochemical company Sasol, wants to invest in the Coal processing industry in Nigeria. Will such an investment make good returns? Perform a SWOT analysis (Strengths, Opportunities, Weakness, Threats) to assist Sasol make a good decision. (10)

3.2 The project initiating consists of processes that facilitate the formal authorization to start a new project or project phase. Describe the steps an organization should follow to **select appropriate projects** that will support her business strategies. (20)

QUESTION 4

[20]

Johannesburg Water Co. has contracted Kenosi Engineering Co, to overhaul their water treatment plant in Kenilworth South of Johannesburg. According to their past record, the project completion time is normally distributed.

The activities needed to complete the project are listed in Table 1 below:

Note: Activity duration (days)

TABLE 1

ACTIVITY	OPTIMISTIC (a)	MOST LIKELY TIME (m)	PESSIMISTIC (b)	IMMEDIATE PREDECESSOR
A	155	26	170	-
B	140	16	158	A
C	110	6	112	K
D	107	10	111	B
E	109	20	142	B
F	28	6	4	B
G	25	6	3	E
H	23	3	3	D
I	10	3	2	H
J	22	3	1	F
K	19	5	2	E
L	25	4	3	I,J,G,C

4.1 Draw the network diagram for the project (1)

4.2 Calculate the, earliest start (ES), earliest finish (EF), latest start (LS), and latest (LF), total project completion time, Variance, Slack times By completing the table below. (7)

ACTIVITY	PREDECESSOR	VARIANCE	t	ES	EF	LS	LF	SLACK	CP
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4.3) What is the critical path and the project completion time? (3)

4.4) According to the terms of the contract, the project company will pay a penalty fee of R50 000 if they are not able to finish the project in 250 days. What is the likelihood they will not pay this penalty? (3)

4.5) Why does the project manager needs to know the critical path and the project completion time.? (3)

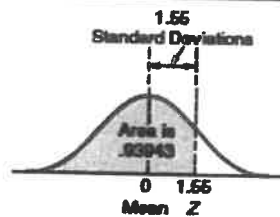
4.6) What is the significance of knowing the 'probability that the project will be completed in a specific date'? (3)

TOTAL MARKS

[100]

END OF ASSESSMENT

Appendix A: Areas Under the Standard Normal Curve



Example: To find the area under the normal curve, you must know how many standard deviations that point is to the right of the mean. Then the area under the normal curve can be read directly from the normal table. For example, the total area under the normal curve for a point that is 1.55 standard deviations to the right of the mean is .93943.

	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	.50000	.50399	.50798	.51197	.51595	.51994	.52392	.52790	.53188	.53586
0.1	.53983	.54380	.54776	.55172	.55567	.55962	.56356	.56749	.57142	.57535
0.2	.57926	.58317	.58706	.59095	.59483	.59871	.60257	.60642	.61026	.61409
0.3	.61791	.62172	.62552	.62930	.63307	.63683	.64058	.64431	.64803	.65173
0.4	.65542	.65910	.66276	.66640	.67003	.67364	.67724	.68082	.68439	.68793
0.5	.69146	.69497	.69847	.70194	.70540	.70884	.71226	.71566	.71904	.72240
0.6	.72575	.72907	.73237	.73566	.73891	.74215	.74537	.74857	.75175	.75490
0.7	.75804	.76115	.76424	.76730	.77035	.77337	.77637	.77935	.78230	.78524
0.8	.78814	.79103	.79389	.79673	.79955	.80234	.80511	.80785	.81057	.81327
0.9	.81594	.81859	.82121	.82381	.82639	.82894	.83147	.83398	.83646	.83891
1.0	.84134	.84375	.84614	.84849	.85083	.85314	.85543	.85769	.85993	.86214
1.1	.86433	.86650	.86864	.87076	.87286	.87493	.87698	.87900	.88100	.88298
1.2	.88493	.88686	.88877	.89065	.89251	.89435	.89617	.89796	.89973	.90147
1.3	.90320	.90490	.90658	.90824	.90988	.91149	.91309	.91466	.91621	.91774
1.4	.91924	.92073	.92220	.92364	.92507	.92647	.92785	.92922	.93056	.93189
1.5	.93319	.93448	.93574	.93699	.93822	.93943	.94062	.94179	.94295	.94408
1.6	.94520	.94630	.94738	.94845	.94950	.95053	.95154	.95254	.95352	.95449
1.7	.95543	.95637	.95728	.95818	.95907	.95994	.96080	.96164	.96246	.96327
1.8	.96407	.96485	.96562	.96638	.96712	.96784	.96856	.96926	.96995	.97062
1.9	.97128	.97193	.97257	.97320	.97381	.97441	.97500	.97558	.97615	.97670
2.0	.97725	.97784	.97831	.97882	.97932	.97982	.98030	.98077	.98124	.98169
2.1	.98214	.98257	.98300	.98341	.98382	.98422	.98461	.98500	.98537	.98574
2.2	.98610	.98645	.98679	.98713	.98745	.98778	.98809	.98840	.98870	.98899
2.3	.98928	.98956	.98983	.99010	.99036	.99061	.99086	.99111	.99134	.99158
2.4	.99180	.99202	.99224	.99245	.99266	.99286	.99305	.99324	.99343	.99361
2.5	.99379	.99396	.99413	.99430	.99446	.99461	.99477	.99492	.99506	.99520
2.6	.99534	.99547	.99560	.99573	.99585	.99598	.99609	.99621	.99632	.99643
2.7	.99653	.99664	.99674	.99683	.99693	.99702	.99711	.99720	.99728	.99736
2.8	.99744	.99752	.99760	.99767	.99774	.99781	.99788	.99795	.99801	.99807
2.9	.99813	.99819	.99825	.99831	.99836	.99841	.99846	.99851	.99856	.99861
3.0	.99865	.99869	.99874	.99878	.99882	.99886	.99889	.99893	.99896	.99900
3.1	.99903	.99906	.99910	.99913	.99916	.99918	.99921	.99924	.99926	.99929
3.2	.99931	.99934	.99936	.99938	.99940	.99942	.99944	.99946	.99948	.99950