

**CHRISTIAN SERVICE UNIVERSITY COLLEGE
KUMASI, GHANA
CSUC SCHOOL OF BUSINESS**

**END OF SEMESTER EXAMINATION
LEVEL 400
CSBF 464: PROJECT MANAGEMENT**

JUNE, 2022

Duration: 2hours Total: 120marks

GENERAL INSTRUCTIONS TO CANDIDATES:

1. The question is divided into two parts A and B
2. Answer all questions in Part A and any two in Part B.
3. Clarity of work and expression will be awarded
4. Answer all questions in the answer booklet.

PART A (60marks)**ANSWER ALL QUESTIONS IN THIS SECTION**

Ia. Discuss the following with the aid of illustrations as applied to project team development. (Diagrams are required)

i. Tuckman's team development model **(10marks)**

ii. Punctuated Equilibrium model **(10marks)**

b. i What is project Crashing? **(1mark)**

ii. State four reasons for reducing project duration **(4marks)**

iii. State four options for accelerating project duration **(4marks)**

iv. Differentiate between discretionary dependency and mandatory dependency in project planning and scheduling. **(2marks)**

c. The table below shows a project to be executed by Lakamuun Company. The project activities with their normal and crash times have been shown in the table below.

Activity	Normal times (Weeks)	Normal Cost GHC	Crash times (Weeks)	Crash cost GHC
1-2	7	700	4	850
1-3	5	500	3	700
1-4	8	600	5	1200
2-5	9	800	7	1250
3-5	5	700	3	1000
3-6	6	1100	5	1300
4-6	7	1200	5	1450
5-7	2	400	1	500
6-7	3	500	2	850

If the indirect cost per week is GHC 200, Find the optimal crashed project completion time. **(25marks)**

d. Consider the table below and use it to answer the questions below

Activity	Optimistic duration	Most likely duration	Pessimistic duration
1-2	1	7	13
1-6	2	5	14
2-3	2	14	26
2-4	2	5	8
3-5	7	10	19
4-5	5	5	17
6-7	5	8	29
5-8	3	3	9
7-8	8	17	32

- i. Draw the project network (2marks)
- ii. Find the expected duration and variance of each activity (3marks)
- iii. Calculate the earliest and latest occurrence for each event (3marks)
- iv. Calculate the expected project length (2marks)
- v. Calculate the variance and standard deviation of project length (2marks)
- vi. Find the probability of the project completion in 40 days (2marks)

PART B

Answer only two questions from this section

1. A. Define the following term with respect to project management
 - i. Event
 - ii. Activity
 - iii. Critical path
 - iv. Parallel activities 4marks
- B. Briefly differentiate between *Budget reserve* and *Management reserve*

4marks

 - i) With the aid of illustration explain the Project Portfolio Matrix stating the characteristics of each quadrant 6marks
 - ii) Briefly explain how project uncertainty affects the contingency reserve. **2marks**
 - iii) What is the main difference between contingency plan and a risk response? **2marks**

C. Orchestra Company is analyzing two mutually exclusive projects A and B with each cash flow shown below

Year	0	1	2	3	4	5
Project x	(10,000)	1050	2300	4300	2300	1500
Project y	(10,000)	3000	3000	3000	3000	3000

Orchestra's company's cost of capital is 12 percent and it can obtain an unlimited capital at that cost. Calculate the regular IRR of the better project that is the project the company should choose if it wants to maximize shareholder wealth **12marks**

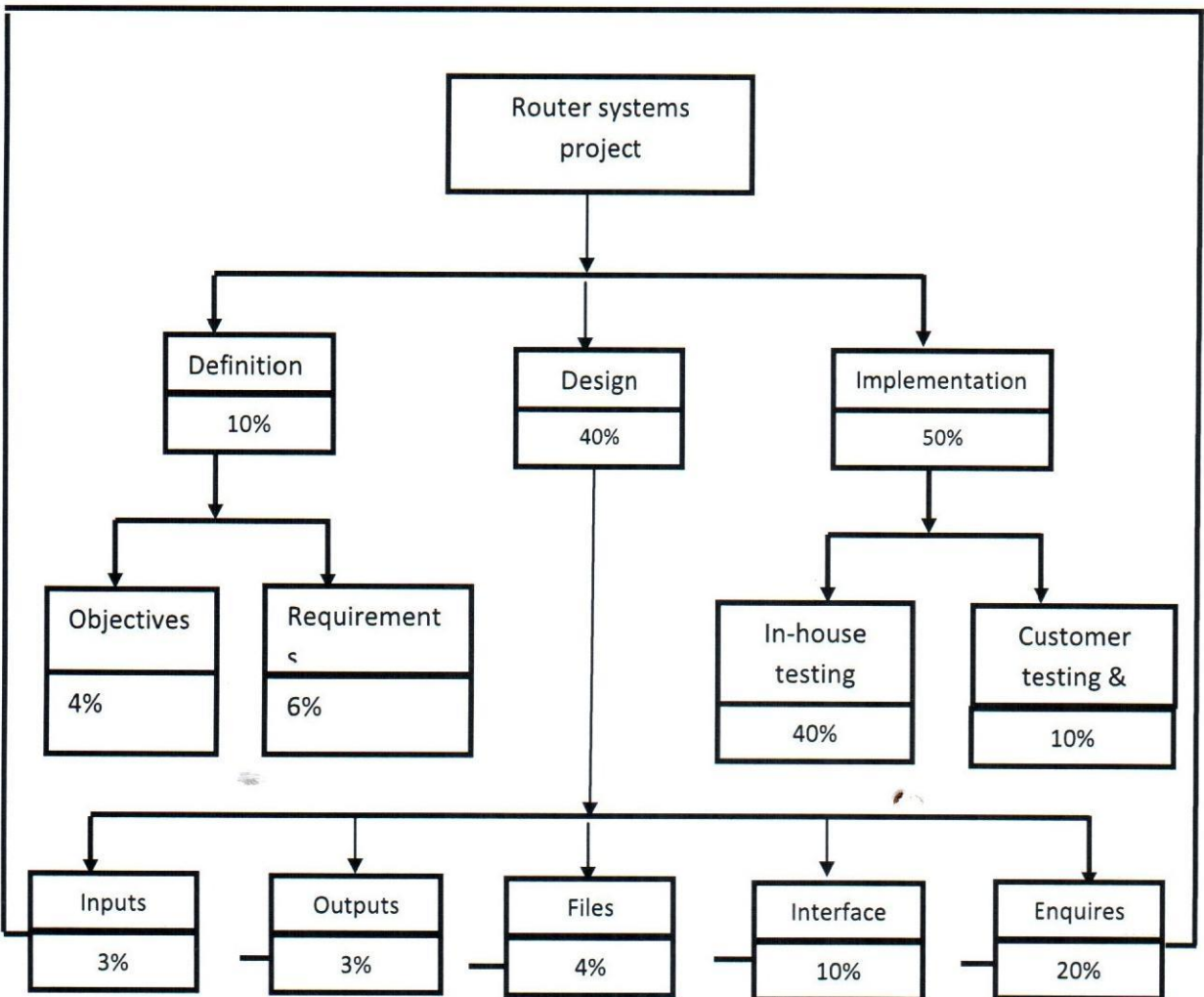
2. A. i State three characteristics of Projects **6marks**

ii. What are the elements of a typical project scope structure? **5marks**

iii Briefly differentiate between *Ball park estimates* and *Comparative estimates*.

4marks

B. Below is a project WBS with cost apportioned by percent. If the total project cost is estimated to be \$600,000



i. What are the estimated cost for each project deliverable **8marks**

C. If the organisation uses the “Complexity Weighting” scheme and presents a function point complexity weight table below:

Complexity weighted table

Inputs	10	Rated complexity low	(2)
Outputs	20	Rated complexity average	(6)
Inquires	10	Rated complexity average	(4)
Files	30	Rated complexity high	(12)
Interface	50	Rated complexity high	(10)

Assume historical data suggest five function points equal one person a month and six people a month and six people can work on a project

i. What is the estimated project duration? **2marks**

ii. If 20 people are available for the project, what is the estimated project duration? **3marks**

iii. If the project must be completed in six months, how many people will be needed for the project? **2marks**

3. A. i Positive synergy is the rationale and basis of team formation. Explain **4marks**

iii Give three pitfalls a project manager should be wary of. **3marks**

B. The Lakamuun Company has set up a weighted scoring matrix for evaluation of potential projects. Below are five projects under consideration.

Criteria Weight	Strong sponsor	Supports business strategy	Urgency	10% of sales from new products	Competition	Fill market gap	Weighted total
	2.0	5.0	4.0	3.0	1.0	3.0	
Project 1	9	5	2	0	2	5	
Project 2	3	7	2	0	5	1	
Project 3	6	8	2	3	6	8	
Project 4	1	0	5	10	6	9	
Project 5	3	10	10	1	8	0	

- i. Using the scoring matrix in the following chart, which project would you rate highest? Lowest? **4marks**
 - ii. If the weight for “Strong Sponsor” is changed from 2.0 to 5.0, will the project selection change? What are the three highest weighted project scores with this new weight? **3marks**
 - iii. Why is it important that the weights mirror critical strategic factors? **3marks**
- C. Define the following terms as applied to project management
- i. Labour burden
 - ii. Absorption costing
 - iii. Below-the-line cost
 - iv. Materials burden **4marks**
- D. . i. What is project organizational structure? **1mark**
- ii. Explain three advantages of functional organizational structure **3marks**
 - iii. iii. What factors must be considered by a project manager in recruiting members for the project team. **5marks**

TABLE A

Standard normal probabilities

<i>z</i>	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
-3.4	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0002
-3.3	.0005	.0005	.0005	.0004	.0004	.0004	.0004	.0004	.0004	.0003
-3.2	.0007	.0007	.0006	.0006	.0006	.0006	.0006	.0005	.0005	.0005
-3.1	.0010	.0009	.0009	.0009	.0008	.0008	.0008	.0008	.0007	.0007
-3.0	.0013	.0013	.0013	.0012	.0012	.0011	.0011	.0011	.0010	.0010
-2.9	.0019	.0018	.0018	.0017	.0016	.0016	.0015	.0015	.0014	.0014
-2.8	.0026	.0025	.0024	.0023	.0023	.0022	.0021	.0021	.0020	.0019
-2.7	.0035	.0034	.0033	.0032	.0031	.0030	.0029	.0028	.0027	.0026
-2.6	.0047	.0045	.0044	.0043	.0041	.0040	.0039	.0038	.0037	.0036
-2.5	.0062	.0060	.0059	.0057	.0055	.0054	.0052	.0051	.0049	.0048
-2.4	.0082	.0080	.0078	.0075	.0073	.0071	.0069	.0068	.0066	.0064
-2.3	.0107	.0104	.0102	.0099	.0096	.0094	.0091	.0089	.0087	.0084
-2.2	.0139	.0136	.0132	.0129	.0125	.0122	.0119	.0116	.0113	.0110
-2.1	.0179	.0174	.0170	.0166	.0162	.0158	.0154	.0150	.0146	.0143
-2.0	.0228	.0222	.0217	.0212	.0207	.0202	.0197	.0192	.0188	.0183
-1.9	.0287	.0281	.0274	.0268	.0262	.0256	.0250	.0244	.0239	.0233
-1.8	.0359	.0351	.0344	.0336	.0329	.0322	.0314	.0307	.0301	.0294
-1.7	.0446	.0436	.0427	.0418	.0409	.0401	.0392	.0384	.0375	.0367
-1.6	.0548	.0537	.0526	.0516	.0505	.0495	.0485	.0475	.0465	.0455
-1.5	.0668	.0655	.0643	.0630	.0618	.0606	.0594	.0582	.0571	.0559
-1.4	.0808	.0793	.0778	.0764	.0749	.0735	.0721	.0708	.0694	.0681
-1.3	.0968	.0951	.0934	.0918	.0901	.0885	.0869	.0853	.0838	.0823
-1.2	.1151	.1131	.1112	.1093	.1075	.1056	.1038	.1020	.1003	.0985
-1.1	.1357	.1335	.1314	.1292	.1271	.1251	.1230	.1210	.1190	.1170
-1.0	.1587	.1562	.1539	.1515	.1492	.1469	.1446	.1423	.1401	.1379
-0.9	.1841	.1814	.1788	.1762	.1736	.1711	.1685	.1660	.1635	.1611
-0.8	.2119	.2090	.2061	.2033	.2005	.1977	.1949	.1922	.1894	.1867
-0.7	.2420	.2389	.2358	.2327	.2296	.2266	.2236	.2206	.2177	.2148
-0.6	.2743	.2709	.2676	.2643	.2611	.2578	.2546	.2514	.2483	.2451
-0.5	.3085	.3050	.3015	.2981	.2946	.2912	.2877	.2843	.2810	.2776
-0.4	.3446	.3409	.3372	.3336	.3300	.3264	.3228	.3192	.3156	.3121
-0.3	.3821	.3783	.3745	.3707	.3669	.3632	.3594	.3557	.3520	.3483
-0.2	.4207	.4168	.4129	.4090	.4052	.4013	.3974	.3936	.3897	.3859
-0.1	.4602	.4562	.4522	.4483	.4443	.4404	.4364	.4325	.4286	.4247
0.0	.5000	.4960	.4920	.4880	.4840	.4801	.4761	.4721	.4681	.4641

