JAIPURIA INSTITUTE OF MANAGEMENT
LUCKNOW NOIDA JAIPUR INDORE

JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA

PGDM / PGDM (M) / PGDM (SM)

SIXTH TRIMESTER (Batch 2021-23)

END TERM EXAMINATION, APRIL 2023

SET-2

Course Name	**PROJECT MANAGEMENT**	Course Code	**20532**
Max. Time	**2 hours**	Max. Marks	**40 MM**

INSTRUCTIONS:

A. **This is a Closed Book examination**
B. **Attempt all questions.**
C. **Scientific calculators permitted.**
D. **z table is enclosed**

Q1)

Cape Town Bio-Tech:

You are working at Cape Town Bio-Tech. You have been designated as Project Manager of an internal project which involves installing the new Double E production line at the plant. You have been allocated a cross functional team of 10 members which includes individuals from engineering, finance, production, civil works department and procurement department. The approved completion time of the project is one year. Project has started and team has already completed 15 days of work. Presently engineering & design work is going on. You have two Design Engineers in your team, one of them is Nitin and other one is Rakesh. Nitin is a hardware engineer whereas Rakesh is an electrical engineer. Both of them are not getting along well each other. Not only do these engineers have different skill sets and tend to look at problems differently, but generational differences between the two groups are evident as well. Nitin is senior to Rakesh by almost 7 years. Nitin has conservative attire and beliefs whereas Rakesh is extrovert and at times boastful. However, both are technically competent in their respective domains. The increasing differences between the two is impacting the work progress negatively. Lately you observed that both of them had a heated exchange regarding some design feature of the production line. As a Project Manager, you are worried about the ongoing dysfunctional conflict between Nitin & Rajesh.

a) Elaborate on the strategies, which you can employ to manage such a dysfunctional conflict.
b) Discuss the five stages through which groups develop into an effective project team.

(Marks: 4+4)

Q2)

Quality Systems, a Delhi based manufacturing company produces custom-built pollution control devices for medium size steel mills. For a current project, the company has identified the project activities, precedence relationships and activity times as shown in the following table:

ACTIVITY	PREDECESSOR	TIME ESTIMATES (DAYS)		
		OPTIMISTIC	MOST LIKELY	PESSIMISTIC
A	-	4	6	7
B	-	1	2	3
C	A	6	6	6
D	A	5	8	11
E	B,C	1	9	18
F	D	2	3	6
G	D	1	7	8
H	E,F	4	4	6
I	G,H	1	6	8
J	I	2	5	7
K	I	8	9	11
L	J	2	4	6
M	K	1	2	3
N	L,M	6	8	10

a) Construct a PDM network diagram for the project.
b) Analyse the network and determine the expected completion time of the project.
c) Evaluate the probability that Quality Systems will be able to complete the project in 53 days?

Marks: (4+4+4)

Q3) You are appointed as a project manager of an automation project in your organisation. The project involves automation of manufacturing & service processes in your organization. The following table depict the major activities, activity durations and predecessor relationships for completion of the project. The table also depict the approved cost estimate for each activity.

ACTIVITY	DURATION (IN WEEKS)	PREDECESSOR	APPROVED COST ESTIMATE (IN RS 00)
A	2	-	20
B	2	A	24
C	6	A	30
D	5	A	25
E	4	B	16
F	4	D	20
G	2	C	10

The table below depicts the status report of the project at the end of week 6

ACTIVITY	% COMPLETE	ACTUAL EXPENDITURE (IN RS 00)
A	FINISHED	15
B	FINISHED	20
C	80%	21
D	80%	18
E	50%	6
F	-	-
G	-	-

a) Develop a cost baseline for the project. Distribute cost over periods on pro rata basis.
b) Compute PV, EV, AC, CV, SV for each activity at the end of period 6.
c) Comment on the health of the project.

Marks: (4+4+4)

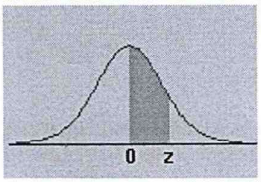
Q4)

a) You are the designated "Project Manager" for setting up a new school your city. Your project scope includes all activities including concept development, feasibility study, land acquisition, construction, furnishing and finishing and obtaining required statutory approvals. Project scope does not include marketing, advertisement and admissions. Construct a Work Breakdown Structure (WBS) for the same. Make suitable assumptions.

b) Compare between:
   i) Management Reserves and Contingency Reserves
   ii) Top-down and Bottom-up Cost Estimation techniques.

Marks: (4+4)

Standard Normal (Z) Table
Area between 0 and z



	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
0.1	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0753
0.2	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
0.3	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
0.4	0.1554	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
0.5	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
0.6	0.2257	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2517	0.2549
0.7	0.2580	0.2611	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
0.8	0.2881	0.2910	0.2939	0.2967	0.2995	0.3023	0.3051	0.3078	0.3106	0.3133
0.9	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.3340	0.3365	0.3389
1.0	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
1.1	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.3770	0.3790	0.3810	0.3830
1.2	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.3980	0.3997	0.4015
1.3	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
1.4	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
1.5	0.4332	0.4345	0.4357	0.4370	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
1.6	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
1.7	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
1.8	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
1.9	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767
2.0	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
2.1	0.4821	0.4826	0.4830	0.4834	0.4838	0.4842	0.4846	0.4850	0.4854	0.4857
2.2	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.4890
2.3	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
2.4	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
2.5	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964
2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.4970	0.4971	0.4972	0.4973	0.4974
2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.4980	0.4981
2.9	0.4981	0.4982	0.4982	0.4983	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.4990	0.4990