

Group - D

6. (a) What is a 'Line & Staff organisation' in the context of Project Management? What is the basic difference between Line & Staff organisation and Divisional organisation.
 (b) Can 'Painting by number' type of project be compared with 'Research project'? Justify your answer.

(4 + 3) + 5 = 12

7. (a) What are the prerequisites for LOB?
 (b) What is PERT? How is it different from CPM ?

6 + (3 + 3) = 12

Group - E

8. (a) Both Projects A and B have a life span of 5 years. Initial investments made for both the projects are Rs. 10 lakhs each. Net expected earnings for the projects are given in the table. All other factors governing the project implementation and execution are identical.

Year	Expected Earnings (in Rs. lakhs)	
	Project A	Project B
1	3	4
2	3	4
3	4	2
4	3	5
5	5	3

Which of the two projects can be chosen applying –

- (i) Rate of Return Method and
 (ii) Pay Back Method.

8 + 4 = 12

- (b) What are the different types of technical appraisals employed for evaluation of a project? Which one is suitable for a new green field project & why so?

9. Write short note on any three of the following –

- (i) WBS (ii) Dummy Activity
 (iii) Ordinal Scale (iv) NPV Method.

(3 × 4) = 12

**RESEARCH METHODOLOGY & PROJECT MANAGEMENT
 (HMTS 6101)**

Time Allotted: 3 hrs

Full Marks: 70

Figures out of the right margin indicate full marks.

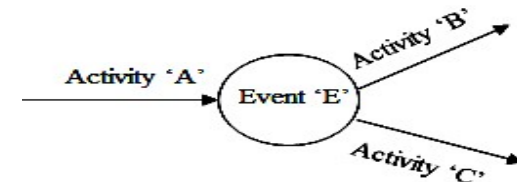
Candidates are required to answer Group A and Any 5 (five) from Group B to E, taking at least one from each group. Candidates are required to give answer in their own words as far as practicable.

Group - A

(Multiple Choice Type Questions)

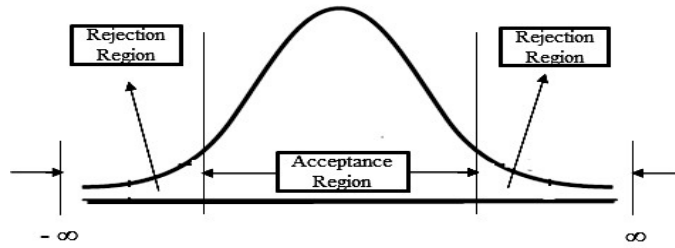
1. Choose the correct alternative for the following: **10 × 1=10**

- (i) Cluster sampling is
 (a) probability sampling (b) non-Probability sampling
 (c) convenience sampling (d) random sampling.
- (ii) If Hypothesis is false and decision is to accept it; it is
 (a) type I error (b) β - risk
 (c) correct inference (d) α -risk.
- (iii) Divisional organisation in the context Project organisation is suitable for projects of -
 (a) small magnitude (b) medium size projects
 (c) large magnitude (d) none of these.
- (iv) What kind of an event is 'E'?



- (a) merge (b) dangling
 (c) burst (d) burst & Merge.
- (v) Basic research is designed to
 (a) verify Phenomenology (b) do historical research
 (c) solve practical problem (d) enhance knowledge.

(vi) Alternative Hypothesis for following diagram is



- (a) $H_1 : \mu \leq \mu_0$
- (b) $H_1 : \mu > \mu_0$
- (c) $H_1 : \mu \geq \mu_0$
- (d) $H_1 : \mu \neq \mu_0$

(vii) Time value of money is considered in

- (a) pay back method
- (b) NPV method
- (c) rate of return method
- (d) none of these.

(viii) In the context of Project appraisal, exceptional technical analysis focuses on

- (a) details of each element of the project
- (b) significant aspects only
- (c) financial transactions
- (d) technical skills of manpower.

(ix) Work Breakdown Structure is

- (a) a hierarchical reflection of all the work in the project in terms of deliverables
- (b) dismantling equipments
- (c) review progress
- (d) division of work among employees.

(x) Project organisation suitable for projects of large magnitude is -

- (a) line & staff organisation
- (b) matrix organisation
- (c) divisional organisation
- (d) both (b) and (c).

Group - B

- 2. (a) Give a brief account of different sampling methods.
- (b) The Principal of Bon Air Elementary School thinks that the average IQ of students of the school is at least 110 with a standard deviation of 10. To prove her point, she administers an IQ test to 20 randomly selected students. Among the sampled students, the average IQ is 108. Based on these results, should the Principal accept or reject her original hypothesis? Assume a significance level of 5%.

5 + 7 = 12

3. (a) What are the responsibilities of a Functional Manager and how do they differ from those of a Project Manager?

(b) What are the different types of Unbalanced Projects? Describe their features.

(3 + 3) + (3 + 3)

Group - C

4. (a) Calculate and analyze the correlation coefficient between the number of study hours and the number of sleeping hours of different students.

Number of study hours	2	4	6	8	...
Number of sleeping hours	10	9	8	7	...

(b) Is correlation unit free result? Justify your answer with an example.

(6 + 2) + (1 + 3)

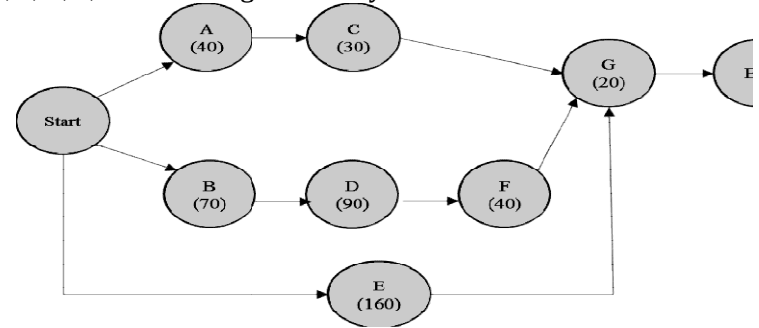
5. (a) Draw the network for the activities indicated in the following table.

Activity	Duration (week)	Preceding Activities
A	4	
B	3	A
C	2	A
D	5	B
E	1	B, C
F	3	C
G	4	E, F
H	4	D, E
I	6	H, G

Also

- (i) Find the Critical Path and Project duration
- (ii) Identify the Burst and Merge events.

(b) Draw Gantt chart for the following network. Durations of activities B, C, D, E, F and G are given in days within brackets.



(6 + 2) + 4