Class Test Solution (CPM-PERT) 03-03-2019

Answer key

1.	(c)	16.	(d)	31.	(b)	46.	(d)	61.	(d)
2.	(b)	17.	(c)	32.	(b)	47.	(d)	62.	(b)
3.	(a)	18.	(d)	33.	(d)	48.	(d)	63.	(b)
4.	(c)	19.	(c)	34.	(d)	49.	(d)	64.	(b)
5.	(a)	20.	(d)	35.	(b)	50.	(c)	65.	(d)
6.	(a)	21.	(c)	36.	(5)	51.	(b)	66.	(a)
7.	(a)	22.	(a)	37.	(d)	52.	(c)	67.	(a)
8.	(d)	23.	(b)	38.	(d)	53.	(c)	68.	(d)
9.	(b)	24.	(d)	39.	(d)	54.	(d)	69.	(a)
10.	(b)	25.	(a)	40.	(a)	55.	(b)	70.	(c)
11.	(b)	26.	(c)	41.	(b)	56.	(a)	71.	(b)
12.	(c)	27.	(a)	42.	(b)	57.	(b)	72.	(b)
13.	(c)	28.	(c)	43.	(a)	58.	(d)	73.	(b)
14.	(d)	29.	(a)	44.	(d)	59.	(b)	74.	(d)
15.	(d)	30.	(d)	45.	(a)	60.	(a)	75.	(b)

1. (c) The main purpose of monitoring is to rerail the project with minimum time over-run. During monitoring information is analyzed and the project plan is brought upto date with the necessary changes required to keep the project as per schedule.

2. (b)

3. (a) Linked bar chart is an improvement over milestone chart, in this activities are linked with arrows and lines, specifying the sequence and order of preceding activities. Hence resource for individual and whole project can be planned. Information about float associated with various activities can be determined. Milestone events are need not to be specifically monitored because we have inter-relationship between activities.

4. (c)

ABC Analysis (Inventory)

In supply chain ABC analysis is an inventory categorization method which consists in dividing items into three categories A, B and C : A being the most valuable items, C being the least valuable ones. This method aims to draw manager's attention on the critical few (A-items) and not on the trivial many (C-items).

The ABC approach states that when reviewing inventory, a company should rate items from A to C, basing its rating on the following rules:

- A-items are goods whose annual consumption value is the highest. The top 70–80% of the annual consumption value of the company typically accounts for only 10-20% of total inventory items.
- C-items are, on the contrary, items with the lowest consumption value. The lower 5% of the annual consumption value typically accounts for 50% of toal inventory items.
- B-items are the interclass items, with a medium consumption value. Those 12-25% of annual conusmption value typically accounts for 30% of total inventory items.

VED Classification

The VED analysis is done to determine the criticality of an item and its effect on production andother services. It is specially used for classification of spare parts. If a part is vital, it is given V classification, if it is essential, then it is given E classification and if it is not so essential, the part is given D classification. For V items, a large stock of inventory is generally maintained, while for D items, minimum stock is enough.

Supply Lead Time

Lead time is the time between the initiation of a process and its completion. In supply chain management there are two types of lead times:

- Manufacturing lead time.
- Information lead time.

In most business, inventory cannot be instantly replenished. Hence, in order to guarantee that the frequency of stockouts remains sufficiently low, the demand planner needs to anticipate how much inventory will be consumed between now and the next replenishment, assuming that an order is passed right away, while goods are in transit, the inventory will gradually get depleted. The longer the lead time, the higher the total inventory level.

5. (a) Barchart does not show interdependencies between various activities of project. Work breakdown structures follows top to down approach and it helps in preparation of network for the project. It also helps in planning and scheduling of activities. In milestone chart an activity is broken down into number of subactivities or key events, each one of which can be recognized during the progress of that activity, and through which better controlling can be achieved.

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6. (a) Work break down structure (WBS) is a project management tool designed to capture project tasks in a visual, organised manner. Today work breakdown structures are widely used for projects of all types, both business and personal.

On the most basic level, you decompose the project scope in order to create the work breakdown structure. This takes time in beginning, but ultimately it affords the project manager better control of costs and deadlines, thus saving time.

As you set up your project WBS, think about how you will want to use it later in the project. Intuitively, we gravitate toward developing task oriented work breakdown structures because they are easy to understand and because we tend to think of a project as a collection of tasks. It usually takes more effort to develop a deliverable-oriented WBS because they include multiple levels of details.

In short, WBS is a deliverable oriented grouping of project elements that organizes and defines the total scope of the projects. Each descending level represents an increasingly detailed definition of a project component. Project components can be products or services.

7. (a) Advantages of ADT's over RDT

(1)Higher maneuverability

(2)Low turning radius

(3)Higher tractive effort

(4)Better operator comfort

(5)Faster cycle times hence low fleet cost.

8. (d)

9. (b)

Parameters governing the load capacity of crane are.

(1) Stability of footing on which crane rest.

(2) Strength of boom of crane.

(3) Counterweight which balances the tipping moment.

10. (b) Length of arrows in network diagram has no significance.

An activity lies between two nodes. Number of nodes increase as the activity progresses.

11. (b) In non tilting concrete mixers mixing of concrete is done with the help of blades fixed inside the drum.

These are suitable for small works and not suitable for large size of aggregates.

The cleaning is not easy as compared to tilting mixtures.

12. (c)

$1m^3$ of concrete requires 5.5 bags of cement

$\therefore$ 0.8 m^3 of concrete requires = 0.8 × 5.5

= 4.4 bags of cement

To avoid fractional usage, 4 bags of cement shall be used.

Hence to volume of concrete required

$= \frac{4}{4.4} \times 0.8 = 0.73\ m^3.$

13. (c) Savings = $100 \times \frac{20}{100} \times \frac{60}{100} \times \frac{15}{100}$

= 1.8 million

14. (d)

In ladder network,

Total project time = $\frac{15+21}{3} + 27$

= 39 days

Time saved = 15 + 21 + 27 – 39

= 24 days.

15. (d) $EOQ = \sqrt{\frac{2D \times Co}{pC_c}}$

$= \sqrt{\frac{2 \times 4800 \times 25}{15 \times 0.1}}$

$= 400$

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$\therefore$ no of lots per year = $\frac{4800}{400}$ = 12

16. (d)

Plan	Annualised benefits (Rs. in Lakhs)	Annualised costs (Rs. in Lakhs)	Net Annualised benefits (Rs. in Lakhs)
A	5000	2000	3000
B	5250	2300	2950
C	5850	2700	3150
D	6100	3000	3100

$\because$ Net annualised benefits in the case of plan 'C' is the maximum, this plan is preferable.

17. (c) Expected profit = (profit) × probability of making the profit.

Project of profit	**Expected preference**	**Order**
1. 0.5 × 15% = 7.5%	III	
2. 0.8 × 10% = 8%	II	
3. 0.7 × 12% = 8.4%	I	
4. 0.6 × 11% = 6.6%	IV	

18. (d) Bar chart does not show interdependency of activities. Hence they seem to be independent of each other and their sequence is not shown.

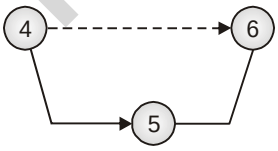
Bar chart does not depict review of project progress hence it is difficult to judge whether an activity is complete or not.

19. (c) There are three error in the network.

Ist

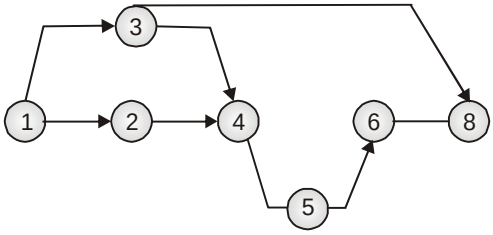
One of this arrow shall be deleted.

IInd



IIIrd Dummy between 7–8 is redundant

This dummy shall be deleted because dummies are used for showing interdependence. Dependency of event 6 on event 4 is already shown on path 4 – 5 – 6.



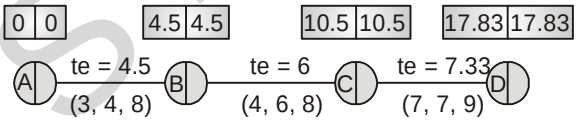
20. (d) Project duration will be 4T as there are four activities in series but over all project duration will be $4T \pm 3\sigma$

σ for entire project = $\sqrt{k^2 + k^2 + k^2 + k^2}$

σ = 2k

$\therefore$ over all project duration = $4T \pm 6k$

21. (c)



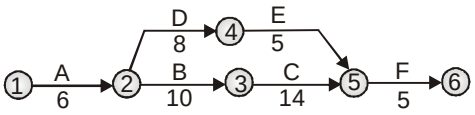
$$te = \frac{t_o + 4t_m + t_p}{6}$$

$$te_{A-B} = \frac{3 + 4 \times 4 + 8}{6} = 4.5 \text{ days}$$

$$te_{B-C} = \frac{4 + 4 \times 4 + 8}{6} = 6 \text{ days}$$

$$te_{C-D} = \frac{7 + 4 \times 7 + 9}{6} = 7.33 \text{ days}$$

22. (a)



Critical path is A – B – C – F with project duration of 35 days. Range of project duration is $T_E \pm 3\sigma$.

Standard deviation of project is calculated along critical path

$$\sigma_{project} = \sqrt{\sigma_A^2 + \sigma_B^2 + \sigma_C^2 + \sigma_F^2}$$

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$$\sigma_{project} = \sqrt{(0.67)^2 + (1)^2 + (2)^2 + 0^2}$$

$$\sigma_{project} = 2.33$$

$\therefore$ Range of project duration

$= (35 - 3 \times 2.33)\ (35 + 3 \times 2.33)$

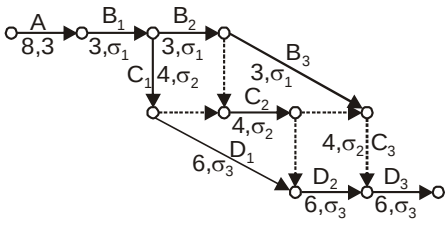
$\Rightarrow$ (28 – 42)

Proportional variation

$$= \frac{\text{Standard deviation}}{\text{Project duration}}$$

$$= \frac{2.33}{35} = \frac{1}{15}$$

23. (b)



If activity B is divided into 3 equal parts then each part will have duration 3 units and standard deviation σ_1

where $4.5 = \sqrt{\frac{\sigma_1^2 + \sigma_1^2 + \sigma_1^2}{(3-1)}}$

$\Rightarrow \quad \sigma_1 = \sqrt{\frac{2}{3}} \times 4.5$

Similarly, S.D. of C_1, C_2, $C_3 = \sigma_2 = \sqrt{\frac{2}{3}} \times 3$ each

S.D. of D_1, D_2, $D_3 = \sigma_3 = \sqrt{\frac{2}{3}} \times 1.5$ each

Modified project duration

$= 8 + 3 + 4 + 6 + 6$

$= 33$ units

Modified project S.D.

$$= \sqrt{3^2 + \frac{2}{3} \times 4.5^2 + \frac{2}{3} \times 3^2 + \left(\frac{2}{3} \times 1.5^2\right) \times 3}$$

$= 5.7$

24. (d) Given that the two events K and L can cause delay in the activity when occurring either each independently or both together but the two events are not independent of each other.

Hence, probability of occurrence of delay is equal to the probability of occurrence of event K (or L) given that the event L (Or K) has happened i.e. P(K/L) or P(L/K)

Since, P(KUL) = P(K) + P(L) – P(K/L).P(L)

or, P(KUL) = P(K) + P(L) – P(L/K).P(K)

Since, P(L) = P(K) and

P(L/K) = P(K/L)

Given, P(KUL) = 0.75

and, P(K) = P(L) = 0.45

$$\Rightarrow \quad P(K/L) = \frac{-P(KUL) + P(K) + P(L)}{P(L)}$$

$$\therefore \quad P(K/L) = \frac{0.45 + 0.45 - 0.75}{0.45}$$

$$= \frac{2 \times 0.45 - 0.75}{0.45}$$

25. (a) $t_0 = 16,\ t_m = 19,\ t_p = 28$

$$t_e = \frac{t_0 + 4t_m + t_p}{6}$$

$$t_e = \frac{16 + 4 \times 19 + 28}{6}$$

$t_e = 20$ days

26. (c)

Optimistic time, $t_o = 5$ days

Most likely time, $t_L = 10$ days

pessimistic time, $t_P = 21$ days

$\therefore$ expected time,

$$t_E = \frac{t_o + 4t_L + t_p}{6} = \frac{5 + 4 \times 10 + 21}{6} = 11 \text{ days}$$

Standard deviation,

$$\sigma = \frac{t_p - t_o}{6} = \frac{21 - 5}{6} = 2.67 \text{days}$$

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27. (a) Silent points about PERT analysis

(i) Uses Probabilistic approach which absorbs uncertainties in estimation of time.

(ii) It is used for projects where there is insufficient or no background information i.e. of non-repetitive type eg. R & D type of projects.

(iii) As there is not much information available about the activities hence events are established for the planning purpose and emphasis is given to the events of the projects.

28. (c)
$$Z = \frac{T_S - T_E}{\sigma}$$
$$1.647 = \frac{T_S - 60}{3}$$
$$T_S = 64.94$$

29. (a)
$$T_E = 37 \text{ week}$$
$$T_S = 30 \text{ week}$$
$$\sigma = \sqrt{\sigma_A^2 + \sigma_C^2 + \sigma_F^2 + \sigma_H^2}$$
$$= \frac{1}{6}\sqrt{4^2 + 14^2 + 14^2 + 2^2}$$
$$= 3.38 \text{ week}$$
$$Z = \frac{T_S - T_E}{\sigma} = \frac{-7}{3.38} = -2.071$$

Probability for Z = –2.069 is = 1.9%.

30. (d) The difference between the earliest expected time (T_E) and the latest allowable occurance time (T_L) of an activity indicates the range between which the occurance time of an event can vary. Slack may be simply defined as the defference the latest allowable time and the earliest expected time of an event.

$$\therefore \quad S = T_L - T_E$$

Where S is the slack for an event. Slack gives the idea of 'time to spare'. Slack means more time to work, less to worry about. It reveals about those areas which have an excess of resources from which trade-off can be rearranged. It also spots those areas which one potential trouble areas , ie. those areas of zero or minimum slack. Slack can be positive, zero or negative depending upon the relationship between T_L and T_E.

Positive Slack: Positive slack is obtained when T_L is more than T_E for an event. It is an indication of an ahead of schedule condition (excess resources).

Zero Slack: Zero slack is obtained when T_L is equal to T_E for an event. It is an indication of an activity on schedule condition (adequate resources).

Negative Slack: Negative slack is obtained when the schedule time of completion, T_s (and hence T_L) is less than the T_E. It is an indication of a behind of schedule condition (lack of resources).

31. (b) Path B is critical,

$$Z = \frac{T_s - T_E}{\sigma} = \frac{42 - 45}{12} = -0.25$$

For $Z = 0.25$, $f(z) = 0.598$

$\therefore$ For $Z = -0.2$, $f(z) = 1 - 0.598$

$f(z) = 0.402$

32. (b) Uncertainty and certainty of any activity or any project is determined by its variance.

More is the variance, more is the uncertainty. Less is the variance less is uncertainty.

We know that

$$\text{Variance} = \left(\frac{t_p - t_0}{6}\right)^2$$

t_p = Pessimistic time
t_0 = Optimistic time

Contractor	σ^2
P	1.78
Q	1
R	2.25
S	1.25

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As variance of contractor Q is least hence he is more certain about performing the job in time.

33. (d) Total float is the time span by which the starting (or finishing) of an activity can be delayed without delaying the completion of the project.Consider an activity i-j. The time duration available for this activity is equal to the difference between its earliest start time (T_E^i) and the latest finish time (T_L^j):

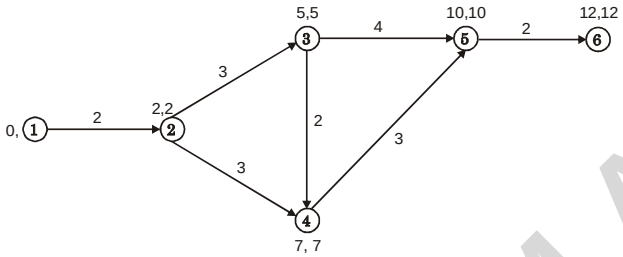
$\therefore$ Max. time available = $T_L^j - T_E^i$

Activity time required = t^{ij}

$\therefore$ Total float (F_T) = max available time available – time required

34. (d)

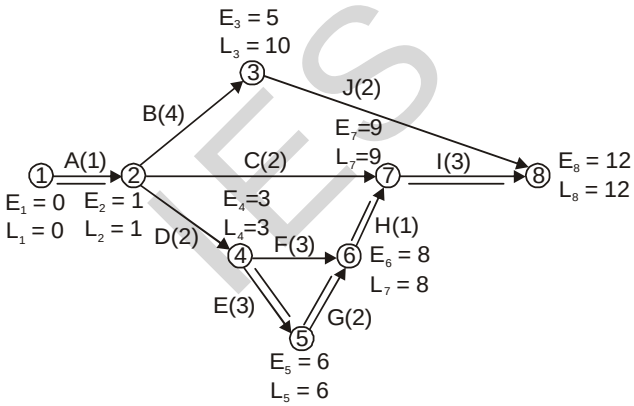
35. (b)



T_F = LFT – EFT

= 7 – 5 = 2

36. (5)



Critical path = A-D-E-G-H-J

For activity -J(3 — 8)

Free float = $E_8 - (E_3 + t_{3-8})$

= 12 – (5 + 2) = 5

37. (d)

38. (d) In CPM network deterministic approach is considered hence there is no consideration for uncertainties in time estimate.

The node number at the arrow head is numerically larger than that of tail end.

39. (d) Critical path is longest path time wise in the network diagram. Activities on the critical path are called as critical activities which has zero total float.

Crash time is that time before which an activity cannot be completed even by application of infinite number of resources.

40. (a)

41. (b) Critical path is the longest path time where in any network diagram.

Properties of critical path

1. It indicates the minimum possible duration to complete the project
2. It indicates maximum time in which project can be completed.
3. It can have dummies
4. It can have parallel sub path between any two nodes on it.
5. It does not falls on a straight line between initial and final node.

42. (b) Critical path is the longest path time wise which can be determined from forward path method only

43. (a)

44. (d) If project duration is 7+8+9 = 24 days then direct cost is

D.C = 12000 + 20000 + 40000 = 72000

If Activity P is crashed by 1 day then project duration = 23 days and D.C = 72000 + 2000 = 74000

If Activity P is again crashed by 1 day then project duration = 22 days and D.C = 74000 + 1000 = 75000

If Activity R is crashed by 1 day then project duration = 21 days then D.C = 7500 + 2000 = 77000.

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45. (a)

Project Duration	Total Cost	Condition	Crashed Activity
26	305	No Crashing	–
25	325	Crashing by 1	C
24	350	Crashing by 1	C
23	370	Crashing by 1	A

The normal time that the project will take for its completion will be the sum of the normal time durations of each activity along the critical path. Similarly, the minimum time that the project will take for its completion will be the sum of the crashed time duration of each activity along the critical path. If all the activities (critical as well as non-critical) are crashed, the cost will be very high without any additional advantage over and above the one obtained by crashing only the critical activities. The non-critical activities need not be speeded up, since their crashing is not going to decrease the project duration further.

However, it may happen that certain non-critical activities may become critical in the process of crashing the critical activities. It is, therefore, essential to proceed step by step in crashing one critical activity at a time and examining whether any other non-critical activity has also become critical in that process or not. For this, it is better to start with crashing first that critical activity which has the lowest cost slope. Then we take another critical activity which is having next higher cost slope.

46. (d)

Project duration	Total cost	Condition	Crashed activity
18	27	No crashing	–
17	29	I^{st} crashing	A
16	31	II^{nd} crashing	B
15	33	III^{rd} crashing	B
14	35	IV^{th} crashing	B
13	38	V^{th} crashing	A

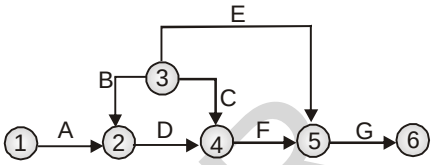
47. (d) All the statements are advantages of scheduling of a project

48. (d) On 13^{th} day activity C-H, and B-F and taking place. Therefore cost incurred = 5 + 6 = 11

On 17^{th} day activity C-H, E-K, and F-G are taking place. Therefore cost incurred = 5 + 8 + 8 = 21.

49. (d)

50. (c)

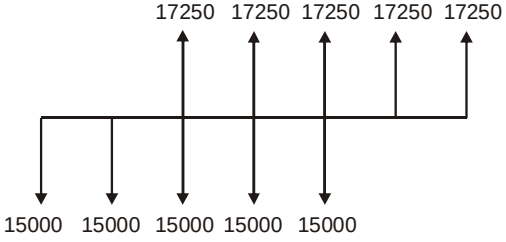


51. (b)

52. (c) The book value of an asset is the asset's cost minus the asset's accumulated depreciation. The term carrying amount is often used in place of book value. The carrying amount refers to the amounts that the company has on its books for an asset or a liability. The carrying amount of a company'sbonds payable is the balance in the company's general ledger account bonds payable minus the amount in discount on bonds payable or plus the amount in its account premium on bonds payable. (If there is some unamortized bond issue cost associated with the bond, that would also be part of the carrying amount).

Unamortized cost: The historical cost of an asset (which is what the owner originally paid for it) less its total depreciation (which is the portion of value removed each year for acounting purposes) up to that point. That is, the unamortized cost of an asset in the value of the asset that has not yet been substracted for depreciation.

53. (c)



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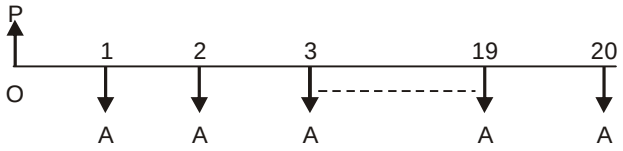
Bill raised = Investment × (1 + i) = 15000 × 1.15 = 17250

From cash flow diagram we can observe that 15000 is needed for starting two months then after that working capital can be obtained from bill raised.

54. (d)

Capital recovery factor (CRF) – Finding A given P



$$\because \quad P = A\left[\frac{(1+i)^{25}-1}{i(1+i)^{25}}\right]$$

Where i = 10% = rate of annual interest.

$$\therefore \quad \frac{A}{P} = \left[\frac{i(1+i)^{20}}{(1+i)^{20}-1}\right] = CRF$$

Here, if amount is withdrawn equally each year, the amount = CRF × P = 0.11746 × 1,00,000 = Rs. 11,746/-

As the withdrawal is at the end of 2^{nd}, 4^{th}, 6^{th} ... 18^{th}, 20^{th} years (ie. at the interval of two years each), Rs. 11,746/- and its interest for one year will be added to give the required withdrawal at the interval of 2 years each

$\therefore$ each instalment of withdrawal

= 11,746 + 11,746 × (1 + 0.1)

= Rs. 24,667/-

≃ Rs. 24,667/-

55. (b)

$$S.F.F = \frac{i}{(1+i)^n-1}$$

$$= \frac{0.04}{(1+0.04)^5-1}$$

= 0.184.

56. (a)

Machine Costing, C_i = Rs. 8,500/-

Scrap value, C_s = Rs. 300/-

Working hour average life = 25,000 hrs.

Using straight line method of depreciation,

$$D_i = \frac{C_i - C_s}{25{,}000} = \frac{8500-300}{25{,}000} \text{ per hour.}$$

$$= \text{Rs. } \frac{8200}{25{,}000} \text{ per hour}$$

$\therefore$ depreciation charge at the end of first year

$$= \frac{82}{250} \times 1500 = Rs.492/-$$

$\because$ The machine is operated for a total of 1500 hours in the first year).

57. (b) Hauling capacity of locomotive

= maximum load that can be pulled

= coefficient of friction × weight-on driving wheel

$$= \frac{1}{6} \times 4 \times 24 \times 10^4 \text{ N} = 1.6 \times 10^4 \text{ N}$$

58. (d)

$$\text{No. of trip} = \frac{\text{Cycle time}}{\text{Time for 1 trip}}$$

$$= \frac{50}{0.75+0.3+0.3}$$

$$= \frac{50}{1.35} = 37.03$$

59. (b)

60. (a)

61. (d) Due to rigidity hoes are more superior to draglines for excavation jobs.

When a hoe is used to dig at moderate depths the output may be as much as a power shovel of similar size digging in similar class of material. But as the depth increases, the output of hoe reduces considerably.

62. (b) No. of trucks req = $\frac{144}{0.8 \times 12 \times \frac{60}{16}} = 4$

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63. (b) **Scraper cycle times:** The fixed time is made up of decelerating, spotting the scraper by the pusher vehicle, loading, accelerating, dumping and spreading plus the variable time, traveling between cut and dump. The fixed time is best determined by time studies.

The variable time is made up of the loaded and empty travel times:

$$\text{Variable time} = \frac{\text{Haul distance}}{\text{Haul speed(Loaded)}} + \frac{\text{Haul distance}}{\text{Haul speed(empty)}}$$

Haul speed, loaded and empty are determined by studies or from manufactures' performance charts, the gradient and rolling resistance of the haul road being taken into account. Therefrore, the scraper cycle time t_c is

t_c = fixed times + variable time

fixed time = 2.2 minutes (given)

$$\text{Variable time} = \left(\frac{0.4}{7} + \frac{0.4}{12.5}\right) \times 60$$

= 5.349 Minutes

$\therefore$ Total theoretical cycle time

= 2.2 + 5.349 = 7.549 minutes

$\because$ Operating factor = 0.8

$\therefore$ Actual cycle time (Which includes waiting time etc)

$$= \frac{7.549}{0.8} = 9.436 \text{ minutes.}$$

$\therefore$ no. of trips per hour $= \frac{60}{9.436} = 6.36 \simeq 6.4$

64. (b) The primary purpose of senstivity analysis is to inform the management about the effects which the variations in estimation would cause, so as to enable the management to take appropriate decisions.

65. (d) The term amortization is also used in connection with loans. The amortization of a loan is the rate at which the principal balance will be paid down overtime given the term and interest rate of the note. Shorter note periods will have higher amounts amortized with each payment or period.

Amortization is to liquidate (a debt, mortgage, etc.) by instalment payments or by periodic transfer to a sinking fund.

66. (a)

$$\frac{2}{3}(1 + 1.4 + 2.75) \times 0.0347 \times 527 \times 1000$$

= 62785

67. (a)

68. (d) Probability of job getting delayed on any day due to non arrival of any one group on time = $3(0.7 \times 0.7 \times 0.3) = 0.441$

It means two groups are on time and one being late.

69. (a) Project evaluation and review technique is used for planning, scheduling and monitoring the project. The approach here is probabilistic. Planner does not have much idea about the activity as there is little or no past history about it.

70. (c)

71. (b)

Principle of management should be flexible and not absolute and must be usable regardless of changing conditions.

Factors affecting requirements for working capital

In addition to the investment in a fixed asset, it is sometimes necessary to carry additional cash, receivables or inventories. This investment in working capital is treated as a cash outflow at the time it occurs.

The working capital needs of a firm are influenced by the following factors –

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(i) Nature of business

(ii) Seasonality of operations

(iii) Conditions of supply

(iv) Marketing conditions

If the raw inventory required for producton is easily available throughout the year, the firm can manage with a small capital being involved in inventory. However, if the raw material supply is scant and unpredictable, then, to ensure continuity of production, the firm has to keep a good stock of inventory which will involve large working capital.

72. (b) Central limit theorem states that in any project if there are n activities involved each having its own time of completion and its own β-distribution with mean values t_{e1}, t_{e2}, t_{e3}, t_{en}, then if n is fairly large the distribution of time for the completion of the project as a whole will be approximated as mean time i.e., as $T_e = t_{e1} + t_{e2} + t_{e3} + ... + t_{en}$.

As probability of completion of activity in time t_e is 50%. Therefore probability of completion of project in time T_e will also be 50%. We know that standard deviate

$$Z = \frac{T_s - T_e}{\sigma}$$

where,

T_s = Scheduled completion time

T_E = Expected completion time

σ = Standard deviation of the project i.e., along critical path

73. (b)

74. (d) Value of an asset at the end of its utility period is called as its Salvage value i.e. Resale value at the end of a particular time.

Salvage value implies that asset has further utility, but due to some reason it is for resale.

Salvage value is more in the initial period of the equipment and decreases as the equipment ages, because as equipment ages the amount of depreciation increases

75. (b) While performing resource optimization, activity time can be reduced and parallely cost associated with it can also be determined.

There are two key ways to reduce project duration.

(a) Crashing (b) Task splitting

During the process of task splitting large tasks are splitted into two or more smaller task, each of which could start ahead of the completion of the previous one.

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