



# BRAINWARE UNIVERSITY

**Term End Examination 2021 - 22**

**Programme – Diploma in Civil Engineering**

**Course Name – Construction and Disaster Management**

**Course Code - DCE602**

**( Semester VI )**

**Time allotted : 1 Hrs.15 Min.**

**Full Marks : 60**

[The figure in the margin indicates full marks.]

## Group-A

(Multiple Choice Type Question)

1 x 60=60

*Choose the correct alternative from the following :*

- (1) Which of the following is not a PERT event ?
 

a) site investigation started	b) sessional work completed
c) bus starts from Jaipur	d) class is being attended
- (2) Critical path
 

a) is always longest	b) is always shortest
c) may be longest	d) may be shortest
- (3) The direct cost of a project with respect to normal time  $t_i$ 

a) minimum	b) maximum
c) zero	d) infinite
- (4) Economic saving of time results by crashing
 

a) cheapest critical activity	b) cheapest non-critical activity
c) costliest critical activity	d) costliest non-critical activity
- (5) In resources levelling
 

a) total duration of project is reduced	b) total duration of project is increased
c) uniform demand of resources is achieved	d) cost of project is controlled
- (6) The basic action involved in sheep foot rolling is
 

a) Kneading	b) Pressing
c) Tamping	d) Vibration
- (7) Which of the following does not represent an activity?
 

a) site located	b) foundation is being dug
c) the office area is being cleaned	d) the invitations are being sent

- (8) Earliest finish of an activity is always
- |  |   |
|--|---|
| a) greater than earliest event time of the following node          | b) less than earliest event time of the following node                |
| c) less than or equal to earliest event time of the following node | d) greater than or equal to earliest event time of the following node |
- (9) Whenever an activity has zero total float, then
- |   |   |
|---|---|
| a) free float of the activity must be zero but independent float need not be zero | b) independent float must be zero but free float need not be zero |
| c) free float and independent float both must be zero                             | d) free float and independent float both need not be zero         |
- (10) What estimate would you give for the variance in above problem ?
- |       |       |
|-------|-------|
| a) 81 | b) 54 |
| c) 36 | d) 9  |
- (11) The time by which a particular activity can be delayed without affecting the preceding and succeeding activities is known as
- |                      |                      |
|----------------------|----------------------|
| a) total float       | b) free float        |
| c) interfering float | d) independent float |
- (12) The time with which direct cost does not reduce with the increase in time is known
- |                    |                  |
|--------------------|------------------|
| a) crash time      | b) normal time   |
| c) optimistic time | d) standard time |
- (13) Updating may result in
- |  |  |
|--|--|
| a) change of critical path             | b) decrease of project completion time |
| c) increase of project completion time | d) all of the above                    |
- (14) Which of the following excavators is most suitable for digging under water?
- |               |                  |
|---------------|------------------|
| a) Drag line  | b) Hoe           |
| c) Clam shell | d) Dipper shovel |
- (15) If the output of a dragline for  $90^\circ$  angle of swing at optimum depth of cut is X, then the output for  $120^\circ$  angle of swing at 120 % of optimum depth of cut will be
- |                |                     |
|----------------|---------------------|
| a) equal to X  | b) more than X      |
| c) less than X | d) any of the above |
- (16) Rolling resistance of a wheel depends upon (i) Vehicle load (ii) Grade (iii) Ground conditions Of these statements
- |                              |                               |
|------------------------------|-------------------------------|
| a) only (i) is correct       | b) (i) and (ii) are correct   |
| c) (i) and (iii) are correct | d) (ii) and (iii) are correct |
- (17) The reduction in project time normally results in
- |  |  |
|--|--|
| a) decreasing the direct cost and increasing indirect cost | b) increasing the direct cost and decreasing the indirect cost |
| c) increasing the direct cost and indirect cost both       | d) decreasing the direct cost and indirect cost both           |
- (18) Assertion (A): Activity 5-7 is critical. Reason (R) : Earliest finish time and latest finish time for events 5-7 are same Select the correct answer
- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| a) A is correct but R is not correct | b) R is correct but A is not correct |
| c) both A and R are correct          | d) both A and R are incorrect        |
- (19) At a work site, statistical quality control of concrete means

- a) measurement of risks to eliminate failures      b) applying the theory' of probability to sample testing or inspection
- c) reduction in wastage of inspection costs      d) reduction in costs for the removal of defects
- (20) PERT technique of network analysis is mainly useful for
- a) small projects      b) large and complex projects
- c) research and development projects      d) deterministic activities
- (21) Select the correct statement.
- a) Activity arrows in a CPM network are drawn to scale      b) The tail of an arrow represents the finish of an activity
- c) Arrow bead represents the start of an activity      d) none of the above
- (22) Latest start of an activity is always
- a) greater than or equal to latest event time of preceding node      b) less than or equal to latest event time of preceding node
- c) equal to latest event time of preceding node      d) less than latest event time of preceding node
- (23) If an activity has its optimistic, most likely and pessimistic times as 2, 3 and 7 respectively, then its expected time and variance are respectively
- a) 3.5 and 5/6      b) 5 and 25/36
- c) 3.5 and 25/36      d) 4 and 5/6
- (24) Total float for any activity is defined as the difference between
- a) its latest finish time and earliest start time for its successor activity      b) its latest start time and earliest start time
- c) its latest start time and earliest finish time      d) its earliest finish time and earliest start time for its successor activity
- (25) The independent float affects only
- a) preceding activities      b) succeeding activities
- c) the particular activity involved      d) none of the above
- (26) The time with which direct cost does not reduce with the increase in time is known as
- a) crash time      b) normal time
- c) optimistic time      d) standard time
- (27) The time corresponding to minimum total project cost is
- a) crash time      b) normal time
- c) optimistic time      d) between normal time and crash time
- (28) Slack time refers to
- a) an activity      b) an event
- c) both event and activity      d) none of the above
- (29) Crash project duration is obtained by summing the
- a) normal durations for all the activities      b) crash durations for all activities
- c) ) crash durations for all the activities along the critical path obtained by taking into account the normal duration for all the activities      d) crash durations for all the activities along the critical path obtained by taking into account the crash duration for all the activities.
- (30) Interfering float is the difference between
- a) total float and free float      b) total float and independent float
- c) free float and independent float      d) none of the above
- (31) Assertion (A): Activity 5-7 is critical. Reason (R) : Earliest finish time and latest finish

time for events 5-7 are same Select

- a) A is correct but R is not correct                      b) R is correct but A is not correct  
c) both A and R are correct                                d) both A and R are incorrect
- (32) The part of a derrick crane include (i) Mast (ii) Boom (iii) Bull wheel (iv) Jack  
a) (i), (ii) and (iv) are correct                      b) (ii), (iii) and (iv) are correct  
c) (i), (iii) and (iv) are correct                      d) (i), (ii) and (iii) are correct
- (33) For a given size of bucket, the ideal output of a dragline will be least in  
a) Moist loam    b) Sand and gravel  
c) Good common earth                                      d) Wet sticky clay
- (34) In time-cost optimization of a project, crashing is done.  
a) on all the activities                                      b) on all the activities lying on the critical path  
c) only on activities lying on the original critical path and having flatter cost slopes                      d) on original critical activities and those that become critical at any stage of crashing in the order of ascending cost slope
- (35) Mobilization advance up to 10% of the cost of work is given to a contractor  
a) on commencement of work at site for payment of loan taken by him                      b) for the purchase of construction materials  
c) for the payment of advances to labour and other staff                      d) for all activities required to start the work at site on finalization of the contract document
- (36) Grader is used mainly for  
a) trimming and finishing                                      b) shaping and trimming  
c) finishing and shaping                                      d) finishing, shaping and trimming
- (37) Which one of the following is not an excavating and moving type of equipment ?  
a) Bulldozer    b) Clam shell  
c) Scraper    d) Dump truck
- (38) Batching refers to  
a) controlling the total quantity at each batch                      b) weighing accurately, the quantity of each material for a job before mixing  
c) controlling the quantity of each material into each batch                      d) adjusting the water to be added in each batch according to the moisture content of the materials being mixed in the batch
- (39) Preliminary project report for a road project must contain  
a) the detailed estimated cost based on detailed design                      b) the several alternatives of the project that have been considered  
c) the soil survey, traffic survey, concept design and approximate cost                      d) the contract documents for inviting tenders
- (40) Frederick W. Taylor introduced a system of working known as  
a) line organisation    b) line and staff organisation  
c) functional organisation                                      d) effective organisation.
- (41) Pick up the incorrect statement from the following:  
a) An activity of a project is denoted by an arrow on the net work                      b) The tail of the arrow indicates the start of the activity  
c) The head of the arrow indicates the end of the activity                      d) The arrows are drawn to scale from left to right

- (42) Final technical authority of a project lies with
- |                            |                       |
|----------------------------|-----------------------|
| a) Assistant Engineer      | b) Executive Engineer |
| c) Superintending Engineer | d) Chief Engineer.    |
- (43) The performance of a specific task in CPM, is known
- |             |              |
|-------------|--------------|
| a) Dummy    | b) Event     |
| c) Activity | d) Contract. |
- (44) Completion of an activity on CPM network diagram, is generally known
- |              |                   |
|--------------|-------------------|
| a) Event     | b) Node           |
| c) Connector | d) All the above. |
- (45) Military organisation is known as
- |                            |                                |
|----------------------------|--------------------------------|
| a) line organisation       | b) line and staff organisation |
| c) functional organisation | d) none of these               |
- (46) Critical Path Net Work helps an engineer
- |   |   |
|---|---|
| a) to concentrate his attention on critical activities  | b) to divert the resources from non-critical advanced activities to critical activities |
| c) to be cautious for avoiding any delay in the critical activities to avoid delay of the whole project | d) all the above.   |
- (47) The time by which activity completion time can be delayed without affecting the start of succeeding activities, is known as
- |               |                       |
|---------------|-----------------------|
| a) duration   | b) total float        |
| c) free float | d) interfering float. |
- (48) The artificial activity which indicates that an activity following it, cannot be started unless the preceding activity is complete, is known as
- |          |               |
|----------|---------------|
| a) event | b) free float |
| c) dummy | d) constant   |
- (49) The most popular type of organisation used for Civil Engineering Constructions, is
- |                            |                                |
|----------------------------|--------------------------------|
| a) line organisation       | b) line and staff organisation |
| c) functional organisation | d) effective organisation.     |
- (50) Critical path lies along the activities having total float
- |             |             |
|-------------|-------------|
| a) positive | b) negative |
| c) zero     | d) same.    |
- (51) Pick up the correct network for the activities of pouring concrete, erection of form work, removal of form work and curing of concrete from the following:
- |  |  |
|--|--|
| a) 1. Pouring of Concrete 2. Erection of form work 3. Curing of concrete 4. Removal of form work | b) 1. Erection of form work 2. Pouring of concrete 3. Curing of concrete 4. Removal of form work |
| c) 1. Removal of form work 2. Erection of form work 3. Pouring of concrete 4. Curing of concrete | d) 1. Pouring of concrete 2. Curing of concrete 3. Erection of form work 4. Removal of form work |
- (52) Site order book is used for recording
- |  |                                |
|--|--------------------------------|
| a) instructions by the executive engineers | b) construction measurements   |
| c) issue of store equipments               | d) names of the casual labour. |
- (53) The time which results in the least, possible construction cost of an activity, is known

- a) normal time  
c) crash time
- b) slow time  
d) standard time.
- (54) Bar charts are suitable for
- a) minor works  
c) large projects
- b) major works  
d) all the Above.
- (55) If TL is the latest allowable event occurrence time, total activity slack(s), is equal to
- a) LST-EST  
c) TL-EFT
- b) LFT-EFT  
d) all the above.
- (56) For the supply of materials for concrete, form work reinforcing and placing of concrete, removal of form work and curing of concrete, number of bar(s) required on bar chart, is
- a) 1  
c) 3
- b) 2  
d) 4
- (57) Railway projects are treated as
- a) light construction  
c) industrial construction
- b) heavy construction  
d) none of these.
- (58) Pick up the correct statement from the following:
- a) The difference of latest occurrence time and earliest expected time, is called slack  
c) The critical path consumes the maximum time
- b) The activities connecting the events having zero slack, lie on the critical path  
d) All the above.
- (59) PERT analysis is based on
- a) optimistic time  
c) most likely time
- b) pessimistic time  
d) all the above.
- (60) Power stations are generally treated as
- a) light construction  
c) industrial construction
- b) heavy construction  
d) electrical construction.