BRAINWARE UNIVERSITY

Term End Examination 2021 - 22
Programme – Diploma in Civil Engineering
Course Name – Construction and Disaster Management
Course Code - DCE602
(Semester VI)

Full Marks : 60

Time : 1 Hr.15 Min.

[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) Select the incorrect statement
 a) Start float and finish float are always equal.
 b) Total float can be either start float or finish float.
 c) Start float and finish float need not be equal
 d) Start float and finish float are the differences between activity times and not event times.

(3) Critical path
 a) is always longest
 b) is always shortest
 c) may be longest
 d) may be shortest

(4) The direct cost of a project with respect to normal time i
 a) minimum
 b) maximum
 c) zero
 d) infinite

(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) 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

(7) 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 th e following node

d) greater than or equal to earliest event time of the following node

(8) Whenever an activity has zero total float, then

a) free float of the activity must be zero but ind ependent 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 no t be zero

(9) Select the incorrect statement.

a) A critical path always begins at the very first event.

b) A critical path always terminates at the last e vent.

c) Critical activities control the project duratio n.

d) Critical activity is the one for which free floa t is zero.

(10) 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

(11) 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

(12) The normal time required for the completion of project in the above problem is

a) 9 days

b) 13 days

c) 14 days

d) 19 days

(13) Which of the following excavators is most suitable for digging under water?

a) Drag line

b) Hoe

c) Clam shell

d) Dipper shovel

(14) Which one of the following surfaces will give highest coefficient of traction while usin g crawler track tractors?

a) Ice

b) Concrete

c) Loose sand

d) Earth

(15) The reduction in project time normally results in

a) decreasing the direct cost and increasing indi rect cost

b) increasing the direct cost and decreasing the indirect cost

c) increasing the direct cost and indirect cost bo th

d) decreasing the direct cost and indirect cost b oth

(16) For which of the following materials, the output of power shovels for a fixed shovel siz e will be maximum

a) Moist loam

b) Good common earth

c) Well blasted rock

d) Wet sticky clay

(17) 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

(18) In PERT analysis, the time estimates of activities and probability of their occurrence fo llow

a) normal distribution curve

b) Poisson's distribution curve

c) Beta – distribution curve

d) none of the above

(19) If an activity has its optimistic, most likely and pessimistic times as 2, 3 and 7 respectiv

a) 3.5 and 5/6

b) 5 and 25/36

c) 3.5 and 25/36

d) 4 and 5/6

(20) Free float for any activity is defined as the difference between

a) its earliest finish time and earliest start time for its successor activity

b) its latest start time and earliest start time

c) its latest finish time and earliest start time for its successor activity

d) its earliest finish time and latest start time for its successor activity

(21) 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

(22) The process of incorporating changes and rescheduling or replanning is called

a) resource levelling

b) resource smoothening

c) updating

d) critical path scheduling

(23) The constraints in case of resource smoothening operation would be

a) resources

b) project duration time

c) both resources and project duration time

d) none of the above

(24) 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

(25) Which of the following earth moving machines has the shortest cycle time

a) Drag line

b) Hoe

c) Clam shell

d) Dipper shovel

(26) 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

(27) During the construction period, price variation clause in contracts caters to

a) increase in rates of only important materials

b) variation in cost in materials element, labour element and petrol-oil-lubricant element

c) variation in total cost of the project on an ad hoc basis

d) rate of inflation

(28) Grader is used mainly for

a) trimming and finishing

b) shaping and trimming

c) finishing and shaping

d) finishing, shaping and trimming

(29) The most suitable type of equipment for compaction of cohesive soils is

a) Smooth-wheeled rollers

b) Vibratory rollers

c) Sheep foot rollers

d) Tampers

(30) 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

(31) The technique for establishing and maintaining priorities among the various jobs of a project, is known

a) Event flow scheduling technique

b) Critical ratio scheduling

c) Slotting technique for scheduling

d) Short interval scheduling.

(32) Final technical authority of a project lies with

a) Assistant Engineer

b) Executive Engineer

c) Superintending Engineer

d) Chief Engineer.

(33) A Milestone chart

a) shows the interdependencies of various jobs

b) depicts the delay of jobs, if any

c) points outgoing ahead of schedule of jobs, if any

d) none of these.

(34) A dummy activity

a) is artificially introduced

b) is represented by a dotted line

c) does not consume time

d) all the above.

(35) Various activities of a project, are shown on bar charts by

a) vertical lines

b) horizontal lines

c) dots

d) crosses.

(36) The time by which activity completion time can be delayed without affecting the start o f succeeding activities, is known as

a) duration

b) total flat

c) free float

d) interfering float.

(37) Henry Gantt developed Bar charts for planning and scheduling of projects in

a) 1880

b) 1900

c) 1920

d) 1940

(38) 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.

(39) The difference between the time avail-to do a job and the time required to do the job, is known as

a) event

b) float

c) duration

d) constraint.

(40) Pick up the correct network for the activities of pouring concrete, erection of form wor k, removal of form work and curing of concrete from the following:

a) 1. Pouring of Concrete 2. Erection of form w ork 3. Curing of concrete 4. Removal of for m work

b) 1. Erection of form work 2. Pouring of concr ete 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 con crete

d) 1. Pouring of concrete 2. Curing of concrete 3. Erection of form work 4. Removal of for m work

(41) 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.

(42) The estimated time required to perform an activity, is known as

a) event

b) dummy

c) duration

d) float.

(43) If the total float and duration of an activity are 5 and 10 days respectively, the particula r activity can be

a) started 5 days later

b) completed 5 days later

c) performed at slower rate in 15 days   d) all the above

(44) The first method invented for planning projects, was

 a) Bar chart method   b) Milestone chart

 c) Critical path method (CPM)   d) Programme Evaluation and Review Techniq ue (PERT)

(45) If TL is the latest allowable event occurrence time, total activity slack(s), is equal to

 a) LST-EST   b) LFT-EFT

 c) TL-EFT   d) all the above.

(46) Modular co-ordination of construction means proper

 a) planning   b) designing

 c) execution   d) all the above.

(47) For the execution of a project, a contractor is

 a) a person   b) a firm

 c) an agency   d) all the above.

(48) The main disadvantage of line organisation, is

 a) rigid structure   b) extraordinary delay in communications

 c) top level executions over work d) all the above.

(49) Pick up the correct statement from the following:

 a) The difference of latest occurence time and earliest expected time, is called slack

 b) The activities connecting the events having zero slack, lie on the critical path

 c) The critical path consumes the maximum time

 d) All the above.

(50) Residential buildings are treated as

 a) light construction   b) heavy construction

 c) industrial construction   d) private construction.

(51) For completion of a project, the critical path of the network represents

 a) minimum time   b) maximum time

 c) maximum cost   d) minimum cost.

(52) Frequency distribution curves

 a) having a single lump, are called uninodal curves

 b) if symmetrical, are called normal curves

 c) if not symmetrical, are called skew curves

 d) all the above.

(53) For which of the following materials, the output of power shovels for a fixed shovel size will be maximum

 a) Moist loam   b) Good common earth

 c) Well blasted rock   d) Wet sticky clay

(54) If the output of a drag-line for 90° angle of swing at optimum depth of cut is X, then the output for 120° 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

(55) While filling the tender for any work, the contractor considers

 a) Site survey   b) Availability of construction materials

 c) Availability of labour   d) All the above

(56) If the gross vehicle weight of a truck is 30 tonne and rolling resistance is 30 kg/tonne, then the tractive effort required to keep the truck moving at a uniform speed is

a) 30 kg

b) 300 kg

c) 900 kg

d) 1000 kg

(57) A machine costs Rs. 20000 and its useful life is 8 years. The money is borrowed at 8% interest per annum. The capital recovery factor at 8% interest per annum for 8 years is 0.174. The annual equipment cost of the machine will be

a) Rs. 1740

b) Rs. 3480

c) Rs. 5220

d) Rs. 6960

(58) The original cost of an equipment is Rs.10,000. Its salvage value at the end of its total useful life of five years is Rs. 1,000. Its book value at the end of two years of its useful life (as per straight line method of evaluation of depreciation) will be

a) Rs. 8,800

b) Rs. 7,600

c) Rs. 6,400

d) Rs. 5,000

(59) PERT is

a) An analytic in concept

b) Limited of event oriented diagrams

c) Used for research and development projects

d) All the above

(60) Consider the following operations: 1. Drilling 2. Blasting 3. Mucking 4. Placing steel 5. Placing concrete The correct sequence of these operations in tunnel construction is

a) 1, 2, 4, 3, 5

b) 1, 3, 2, 4, 5

c) 1, 2, 3, 4, 5

d) 1, 3, 4, 2, 5