

Computer Based Examination System

Exported On *	2023/11/06 9:44:12
Title *	Question Paper Answer Key
OES Exam *	GPSC05202338 / Lecturer in Civil Engineering / Completed / 2023-11-05

1	Question Description	When a retaining wall moves towards the backfill, the lateral pressure exerted by the wall on the soil is called:
	A	Active earth pressure
	B	Passive earth pressure
	C	At rest pressure
	D	Effective pressure
	E	None of the above
	Correct Answer	B
	Marks	1

2	Question Description	IRC recommends a camber value of on thin bituminous roads for areas with heavy rainfall
	A	1.7 %
	B	2 %
	C	2.5 %
	D	4 %
	E	None of the above
	Correct Answer	C
	Marks	1

3	Question Description	According to IS specifications the final setting time of ordinary Portland cement should not be more than
	A	1/2 hr
	B	5 hrs
	C	8 hrs
	D	10 hrs
	E	None of the above
	Correct Answer	D
	Marks	1

4	Question Description	If 'n' is the number of sides in a closed traverse, the sum of included angles equals
	A	$(n+2)90^\circ$
	B	$(n+2)180^\circ$
	C	$(n-2)180^\circ$
	D	$(n-2)90^\circ$
	E	None of the above
	Correct Answer	C
	Marks	1

5	Question Description	The graphical representation between rainfall and runoff is called:
	A	Hydrograph
	B	Hyetograph
	C	Infiltration index
	D	Contour
	E	None of the above
	Correct Answer	B
	Marks	1

6	Question Description	Back washing is highly effective in case of
	A	Slow sand filters
	B	Rapid sand filters
	C	Pressure filters
	D	Slow and rapid sand filters
	E	None of the above
	Correct Answer	B
	Marks	1

7	Question Description	The function of fish plates in a railway track is to:
	A	Fix the rails to sleepers
	B	Fasten chair to sleepers
	C	Fix wooden sleepers to rail
	D	Hold two rail sections together
	E	None of the above
	Correct Answer	D
	Marks	1

8

Question Description	The factor of safety adopted for:
A	Steel and concrete are same
B	Steel is lower than concrete
C	Steel is higher than concrete
D	Steel and concrete depend on the loading conditions
E	None of the above
Correct Answer	B
Marks	1

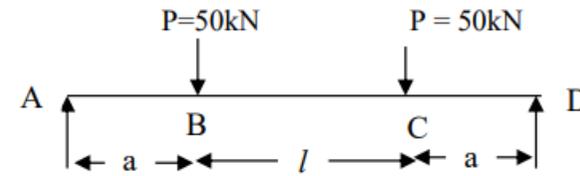
9

Question Description

For the beam (Fig.), the value of maximum shear stress for the portion BC is (section properties are $I = 168 \times 10^4 \text{ mm}^4$; $A = 1021 \text{ mm}^2$).

- A. 150 N/mm^2
- B. 200 N/mm^2
- C. 222 N/mm^2
- D. zero

- (1) 11
- (2) 12
- (3) 15



A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	D
Marks	1

10	Question Description	As per IS 456:2000, the minimum percentage of steel for HYSD bars for slab design is:
	A	0.12 %
	B	0.15 %
	C	0.1 %
	D	0.6 %
	E	None of the above
	Correct Answer	A
	Marks	1

11	Question Description	A cross drainage work in which the canal runs over the drain is called:
	A	Aqueduct
	B	Super passage
	C	Canal syphon
	D	Branch canal
	E	None of the above
	Correct Answer	A
	Marks	1

12

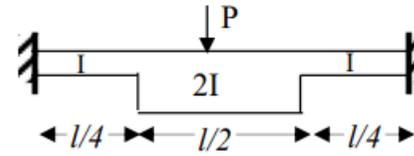
Question Description	Choose the correct statement from the following:
A	Void ratio of soils can never exceed 1
B	Water content of a soil cannot be greater than 100 %
C	IS classification for silty sand is SM
D	All of the above
E	None of the above
Correct Answer	C
Marks	1

13

Question Description

A beam (Fig.) is subjected to concentrated load acting at the mid point, the maximum bending moment is

- A. $P/16$
- B. $5P/48$
- C. $7P/64$
- D. $P/8$



A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

B

Marks

1

14	Question Description	The method of plane tabling, which is used for locating the position of instrument station is called:
	A	Intersection
	B	Resection
	C	Orientation
	D	Centering
	E	None of the above
	Correct Answer	B
	Marks	1

15	Question Description	A septic tank is a water tight tank in which the following operations take place:
	A	Digestion
	B	Sedimentation
	C	Sedimentation and digestion
	D	Decomposition
	E	None of the above
	Correct Answer	C
	Marks	1

16

Question Description	Which of the spillway is least suitable for an earthen dam?
A	Ogee spillway
B	Chute spillway
C	Side channel spillway
D	Shaft spillway
E	None of the above
Correct Answer	A
Marks	1

17

Question Description

A soil has a discharge velocity of 6×10^{-7} m/s and a void ratio of 0.5. Its seepage velocity is

A. 18×10^{-7} m/s

B. 12×10^{-7} m/s

C. 6×10^{-7} m/s

D. 3×10^{-7} m/s

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

A

Marks

1

18	Question Description	The declination of a star is $21^{\circ}15'N$ at a latitude of $43^{\circ}30'N$. The zenith distance at the upper culmination is
	A	$22^{\circ}15'$
	B	$21^{\circ}15'$
	C	$64^{\circ}45'$
	D	$43^{\circ}30'$
	E	None of the above
	Correct Answer	A
	Marks	1

19	Question Description	The maximum permissible turbidity in drinking water is:
	A	1 to 4 ppm
	B	5 to 10 ppm
	C	10 to 20 ppm
	D	30 to 40 ppm
	E	None of the above
	Correct Answer	B
	Marks	1

20

Question Description	The fineness modulus of fine aggregates lies between
A	2 to 3.5
B	3.5 to 5
C	5 to 7
D	6 to 8.5
E	None of the above
Correct Answer	A
Marks	1

21

Question Description

Which of the pair is not correctly matched?

Boundary conditions of column

A. Pin – pin

B. Fixed – fixed

C. Fixed – free

D. Fixed - pin

Euler's buckling load

$$\frac{\pi^2 EI}{l^2}$$

$$\frac{4\pi^2 EI}{l^2}$$

$$\frac{0.25\pi^2 EI}{l^2}$$

$$\frac{\sqrt{2}\pi^2 EI}{l^2}$$

A A

B B

C C

D D

E None of the above

Correct Answer D**Marks** 1

22

Question Description

In a C_2 profile of gradually varied open channel flow

A. $y_c > y > y_n$

B. $y > y_n > y_c$

C. $y_n > y_c > y$

D. does not exist

y_n = normal depth, y_c = critical depth

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

D

Marks

1

23	Question Description	Most common method of prestressing used for factory production is
	A	long line method
	B	Freyssinet system
	C	Magnel – Blaton system
	D	Lee – Mc Call system
	E	None of the above
	Correct Answer	A
	Marks	1

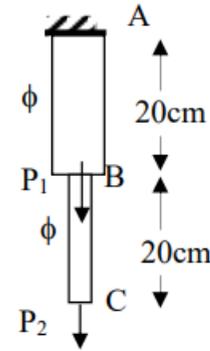
24	Question Description	The channel or pipe which carries water away from the power house after it has passed through the turbine is called
	A	Regulator
	B	Penstock
	C	Spillway
	D	Tail race
	E	None of the above
	Correct Answer	D
	Marks	1

25

Question Description

A mild steel bar is 40cm long. The length of part AB and BC of the bar are 20cm each respectively. It is subjected to loading as shown in Fig. The ratio of the stresses σ_1 in part AB to σ_2 in part BC is

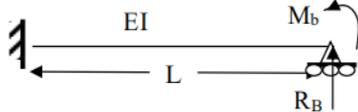
- A. 2
- B. $\frac{1}{2}$
- C. 4
- D. $\frac{1}{4}$



A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	B
Marks	1

26

Question Description	In limit state design the maximum limit imposed by IS: 456-1978 on the redistribution of moments in statically indeterminate beams is
A	10 %
B	15 %
C	20 %
D	30%
E	None of the above
Correct Answer	D
Marks	1

27	Question Description	 <p>F or the beam (Fig.), R_B is</p>
	A	$3M_b/2L$ upward
	B	$3M_b /2L$ downward
	C	$6M_b/4L$ downward
	D	$8M_b/4L$ downward
	E	None of the above
	Correct Answer	B
	Marks	1

28	Question Description	The hydraulic mean depth for a circular pipe of diameter 'd' is:
	A	$d/4$
	B	$d/2$
	C	d
	D	2d
	E	None of the above
	Correct Answer	A
	Marks	1

29

Question Description	The total cost of a building is Rs.3,00,000/-. The depreciated cost of the building after 30 years, if the life span is 90 years and scrap value is Rs.30000/-, will be (by Declining Balance method).
A	2,10,000
B	1,39,504
C	1,75,254
D	2,50,000
E	None of the above
Correct Answer	B
Marks	1

30

Question Description

A.N.Khosla's empirical formulae relating rainfall and runoff is

- A. $R = 0.85 P - 305$
- B. $R = 0.1112P^{1.1}$
- C. $R = P - T/0.208$
- D. $R = 4.9025P^{0.64}$

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

C

Marks

1

31	Question Description	Revolving a telescope of a theodolite in the horizontal plane, about its vertical axis is called:
	A	Swinging
	B	Plunging
	C	Transiting
	D	Inverting
	E	None of the above
	Correct Answer	A
	Marks	1

32	Question Description	The time taken from the instant the object becomes visible to the driver, to the instant the brakes are applied effectively is called:
	A	Time of flight
	B	Reflection time
	C	Reaction time
	D	Accident time
	E	None of the above
	Correct Answer	C
	Marks	1

33	Question Description	Vicat apparatus is used to determine the of cement
	A	Consistency
	B	Soundness
	C	Fineness
	D	Chemical composition
	E	None of the above
	Correct Answer	A
	Marks	1

34	Question Description	A chain line crosses a river; the points B and C are on the near and distant banks respectively. A line BD of 50m lengths is set out at right angles to the chain line at B. If the angle BDC is 45° , the width of the river is
	A	85.4m
	B	89.1m
	C	50.0m
	D	60.2m
	E	None of the above
	Correct Answer	C
	Marks	1

35

Question Description	Water rises up to a height 'h' in a capillary tube of certain diameter 'd'. If the capillary tube is replaced by another tube of diameter '0.5 d'. The rise of water in this tube will be:
A	4 h
B	3 h
C	2 h
D	0.5 h
E	None of the above
Correct Answer	C
Marks	1

36	Question Description	The thickness of a cement concrete pavement slab at exterior is kept(d = the economical designed depth of slab)
	A	1.275 d
	B	1.125 d
	C	0.85 d
	D	0.75 d
	E	None of the above
	Correct Answer	C
	Marks	1

37	Question Description	A geological formation that may contain water, but is incapable of transmitting significant quantity is called
	A	aquifer
	B	aquitard
	C	aquiclude
	D	aquifuge
	E	None of the above
	Correct Answer	C
	Marks	1

38

Question DescriptionThe modulus of elasticity of rolled structural mild steel is about (in N/mm²)A. 2.05 to 2.15 x10⁵B. 0.8 to 0.9x10⁵C. 0.1 to 0.5x10⁵D. 1 to 2x10⁵

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

A

Marks

1

39

Question Description

In a plane stress problem

(i) normal stress in the third direction is zero

(ii) strain in the third direction is zero

(iii) strains in all directions are present

(iv) normal stresses in all directions are present

Correct answer is

A

(i), (iii)

B

(ii), (iv)

C

(iii), (iv)

D

(i), (ii)

E

None of the above

Correct Answer

A

Marks

1

40	Question Description	For a two-way slab, the ratio between the long span and short span is:
	A	2
	B	Less than or equal to 2
	C	Not equal to 2
	D	Less than 2
	E	None of the above
	Correct Answer	D
	Marks	1

41	Question Description	The nominal mix for an M10 grade concrete is approximately:
	A	1:2:4
	B	1:1:2
	C	1:3:6
	D	1:4:8
	E	None of the above
	Correct Answer	C
	Marks	1

42	Question Description	B.O.D test is standardized at
	A	10°C and 5 days
	B	20°C and 5 days
	C	37°C and 3 days
	D	50°C and 5 day
	E	None of the above
	Correct Answer	B
	Marks	1

43	Question Description	The method which is not used for computing the mean depth of rainfall over an area
	A	Arithmetic mean method
	B	Theissen polygon method
	C	Isobar method
	D	Isohytel method
	E	None of the above
	Correct Answer	C
	Marks	1

44	Question Description	Which one the following closely represents the shape of the earth
	A	Spheroid
	B	Ellipsoid
	C	Oblate spheroid
	D	Prolate spheroid
	E	None of the above
	Correct Answer	C
	Marks	1

45	Question Description	13 Standard 5 day BOD of a waste sample is nearly x% of the ultimate BOD, where x is?
	A	58%
	B	68%
	C	78%
	D	88%
	E	None of the above
	Correct Answer	B
	Marks	1

46	Question Description	A soil has liquid limit of 45 %, plastic limit of 25 % and a shrinkage limit of 15 %. For a natural water content of 35 %, the consistency index is:
	A	50 %
	B	75 %
	C	30 %
	D	40 %
	E	None of the above
	Correct Answer	A
	Marks	1

47	Question Description	The main principle of surveying is to:
	A	Work from left to right
	B	Work from right to left
	C	Work from whole to part
	D	Work from part to whole
	E	None of the above
	Correct Answer	C
	Marks	1

48	Question Description	At the point of contraflexure:
	A	Shear forces changes sign
	B	Bending moment is maximum
	C	Shear force is maximum
	D	Bending moment changes sign
	E	None of the above
	Correct Answer	D
	Marks	1

49	Question Description	Bitumen is soluble in:
	A	Carbon disulphide
	B	Kerosene
	C	Water
	D	Petrol
	E	None of the above
	Correct Answer	A
	Marks	1

50

Question Description	On a right-angled road intersection with two lanes, two-way traffic, the total number of potential conflict points will be
A	22
B	24
C	16
D	32
E	None of the above
Correct Answer	B
Marks	1

51

Comprehension

Read the following passage and answer the questions below:

Americans, I am aware, believe that they will produce Literature and Art, as they produce coal and steel and oil, by the judicious application of intelligence and capital; but here they do themselves injustice. The qualities that are making them masters of the world, unfit them for slighter and less serious pursuits. The future is for them the kingdom of elevators, of telephones, of motor-cars, of flying machines. Let them not idly hark back, misled by the effete traditions, to the old European dream of the kingdom of heaven ...let them say, "for Europe, Letters and Art", let America rule the world by syndicates and trusts!" For such is her true destiny, and that she conceives it to be such, is evidenced by the determination with which she has suppressed all irrelevant activities. Every kind of disinterested intellectual operation she has severely repudiated.

Question Description

The essence of American character, as suggested in the passage, lies in the phrase

A

disinterested intellectual operation

B

production of coal and steel and oil

C

desire for mastery over the world

D

sane use of intelligence and wealth

E

None of the above

Correct Answer

D

Marks

1

Comprehension

Read the following passage and answer the questions below:

Americans, I am aware, believe that they will produce Literature and Art, as they produce coal and steel and oil, by the judicious application of intelligence and capital; but here they do themselves injustice. The qualities that are making them masters of the world, unfit them for slighter and less serious pursuits. The future is for them the kingdom of elevators, of telephones, of motor-cars, of flying machines. Let them not idly hark back, misled by the effete traditions, to the old European dream of the kingdom of heaven ...let them say, "for Europe, Letters and Art", let America rule the world by syndicates and trusts!" For such is her true destiny, and that she conceives it to be such, is evidenced by the determination with which she has suppressed all irrelevant activities. Every kind of disinterested intellectual operation she has severely repudiated.

Question Description

The statement "For such is her destiny", indicates that America is inclined to strive for

A

the kingdom of elevators

B

political power over the world

C

slighter and less serious pursuits

D

the kingdom of heaven

E

None of the above

Correct Answer

B

Marks

1

Comprehension

Read the following passage and answer the questions below:

Americans, I am aware, believe that they will produce Literature and Art, as they produce coal and steel and oil, by the judicious application of intelligence and capital; but here they do themselves injustice. The qualities that are making them masters of the world, unfit them for slighter and less serious pursuits. The future is for them the kingdom of elevators, of telephones, of motor-cars, of flying machines. Let them not idly hark back, misled by the effete traditions, to the old European dream of the kingdom of heaven ...let them say, "for Europe, Letters and Art", let America rule the world by syndicates and trusts!" For such is her true destiny, and that she conceives it to be such, is evidenced by the determination with which she has suppressed all irrelevant activities. Every kind of disinterested intellectual operation she has severely repudiated.

Question Description

The following is not a synonym for "effete"

A

affected

B

effective

C

enfeebled

D

effeminate

E

None of the above

Correct Answer

B

Marks

1

Comprehension

Read the following passage and answer the questions below:

Americans, I am aware, believe that they will produce Literature and Art, as they produce coal and steel and oil, by the judicious application of intelligence and capital; but here they do themselves injustice. The qualities that are making them masters of the world, unfit them for slighter and less serious pursuits. The future is for them the kingdom of elevators, of telephones, of motor-cars, of flying machines. Let them not idly hark back, misled by the effete traditions, to the old European dream of the kingdom of heaven ...let them say, "for Europe, Letters and Art", let America rule the world by syndicates and trusts!" For such is her true destiny, and that she conceives it to be such, is evidenced by the determination with which she has suppressed all irrelevant activities. Every kind of disinterested intellectual operation she has severely repudiated.

Question Description

The statement about "producing Literature and Art as coal, steel and oil" implies

A a materialistic approach to creative work

B a realistic view of literature and art

C a prudent view of cultural activity

D a keen interest in refinement of spirit

E None of the above

Correct Answer

A

Marks

1

55

Comprehension

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Question Description

Select the option closest in meaning to the phrase "severely repudiated" in the passage

A

refused to fulfil

B

refused to discharge

C

rejected outright

D

refused to accept

E

None of the above

Correct Answer

C

Marks

1

56	Question Description	Which city is known as the "Tea City of India"?
	A	Kolkata
	B	Guwahati
	C	Darjeeling
	D	Dibrugarh
	E	None of the above
	Correct Answer	D
	Marks	1

57	Question Description	What is the name of the recent potential cyclonic storm formed in the Arabian Sea?
	A	Cyclone Nisarga
	B	Cyclone Tej
	C	Cyclone Biparjoy
	D	Cyclone Asani
	E	None of the above
	Correct Answer	B
	Marks	1

58	Question Description	How many member countries are there in NATO in 2023?
	A	31
	B	30
	C	29
	D	35
	E	None of the above
	Correct Answer	A
	Marks	1

59	Question Description	Who won the gold medal in the men's T63 high jump event at the Asian Para Games 2023?
	A	Pranav Soorma
	B	Shailesh Kumar
	C	Mariyappan Thangavelu
	D	Padhiyar Govindbhai
	E	None of the above
	Correct Answer	B
	Marks	1

60

Question Description	Which country won the gold medal in the men's hockey event at the 2023 Asian Games?
A	Japan
B	South Korea
C	Pakistan
D	India
E	None of the above
Correct Answer	D
Marks	1

61

Question Description	What is the name of India's first semi-high-speed regional rail service?
A	Namo Bharat
B	Rapid B
C	Vande Bharat
D	Speed X
E	None of the above
Correct Answer	A
Marks	1

62	Question Description	Which Indian aerospace organization unveiled its Vikram-1 orbital rocket in October 2023?
	A	Skyroot Aerospace
	B	Indian Space Research Organisation
	C	Bharat Heavy Electricals Limited
	D	Bharat Dynamics Limited
	E	None of the above
	Correct Answer	A
	Marks	1

63	Question Description	Which case has the Supreme Court referred to a five-judge Constitution Bench recently?
	A	Aadhaar case
	B	Electoral bond case
	C	Pegasus case
	D	Farm laws case
	E	None of the above
	Correct Answer	B
	Marks	1

64	Question Description	Where was the first edition of the Indian Military Heritage Festival inaugurated?
	A	Mumbai
	B	Bangalore
	C	Chennai
	D	New Delhi
	E	None of the above
	Correct Answer	D
	Marks	1

65	Question Description	Which city in India is aiming to become the first wetland city?
	A	Udaipur
	B	Jaipur
	C	Jodhpur
	D	Kota
	E	None of the above
	Correct Answer	A
	Marks	1

66

Question Description

Understand the pattern in the given figure and find the missing number

	4	9	
6	20	?	6
5	39	51	10
	8	7	

A 45**B** 32**C** 54**D** 28**E** None of the above**Correct Answer** A**Marks** 1

67

Question Description

Select the pair of words that are related to each other in the same way as the two capitalized words
PAPER:WOOD

A

ink: colour

B

brush: paint

C

brick: clay

D

cloth: dresses

E

None of the above

Correct Answer

C

Marks

1

68	Question Description	Find the missing alphabet in the following series? O, T, T, F, F, S, S, E, ?
	A	E
	B	N
	C	G
	D	H
	E	None of the above
	Correct Answer	C
	Marks	1

69	Question Description	IMT's hostel mess requires 60 kgs of rice every day except every 7 th day on which only 50 kgs of rice is required. If this continues, how many kgs of rice is required for 150 days starting from the first day?
	A	9000 kgs
	B	8790 kgs
	C	8970 kgs
	D	9890 kgs
	E	None of the above
	Correct Answer	B
	Marks	1

70

Question Description	If SIZZLING is coded as 5 and ABSENTEE as 6, then what is the code for LETTERS?
A	5
B	6
C	7
D	8
E	None of the above
Correct Answer	A
Marks	1

71

Question Description

Assuming the given statements to be true, decide which of the conclusion is true, disregarding the commonly known facts

Statements

- I. All locks are keys
- II. All chains are locks

Conclusions

A

all keys are locks

B

all chains are keys

C

all locks are chains

D

some chains are not keys

E

None of the above

Correct Answer

B

Marks

1

72	Question Description	Raju's age is three years more than four times Balu's age. After five years, Raju's age will be one year more than thrice Balu's age. What is Raju's present age in years?
	A	8
	B	13
	C	32
	D	35
	E	None of the above
	Correct Answer	D
	Marks	1

73	Question Description	In an interview panel, seven members are sitting in a row. A is in between D & F, C is in between F & G. G is between C & E and D is in between B & A. Find the person sitting in the middle.
	A	D
	B	F
	C	B
	D	A
	E	None of the above
	Correct Answer	B
	Marks	1

74

Question Description	Owner of a branded shoe showroom earns 25% profit after giving 25% discount. Now, if he wants to give 10% discount, what would be his profit percentage?
A	30%
B	40%
C	50%
D	60%
E	None of the above
Correct Answer	C
Marks	1

75

Question Description	If BEAUTY is coded as DHEZZF, how will FLOWER be written in that code?
A	HSOBYK
B	HBOSKY
C	SBKYOH
D	HOSBKY
E	None of the above
Correct Answer	D
Marks	1