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22

TEST CODE: PPJECI SIV

Question Paper

Civil Engineering, General Awareness,
Reasoning and English

Time Allowed : 2 Hrs.

Question Booklet No.

2201151

Max. Marks : 100

DO NOT OPEN THE PAPER SEAL OF THE BOOKLET UNTIL YOU ARE TOLD TO DO SO

INSTRUCTIONS FOR CANDIDATE

1. This Question-Booklet contains 100 Questions on the following:-

Section	Subject	Q. No.	Total Ques.
Part-I	Civil Engineering	1-60	60
Part-II	General Awareness, Reasoning and English	61-100	40
Total Questions			100

- There are 16 pages in this Booklet out of which Page No. 1 is for instructions to the candidates. Page Nos. 15 and 16 are meant for Rough Work and page nos. from 2 to 14 contain question of all parts. After opening of the Booklet and before you start answering the questions you must check up this booklet and ensure that it contains all the pages (1-16) and see that no page is missing or repeated. If you find any defect in this booklet, you must get it replaced immediately from the Invigilator within first 10 minutes of start of the Examination.
- You must write your Roll Number in the space provided on the top left hand side of Page No. 1 of this Question-Booklet.
- You will be supplied a one-page OMR Answer-Sheet separately by the Invigilator. You must complete all the details at appropriate places in the OMR Answer-sheet carefully, before you actually start answering the questions.
- The instructions as given on the OMR Answer-sheet, must be read carefully by the candidate and action in filling up the desired information in the columns writing a statement and marking the answer to the questions by Pen on Side I and Side-II of the OMR Answer-Sheet should be taken accordingly.
- All questions are compulsory. Each question carries one mark. There is negative marking: $1/4^{\text{th}}$ mark will be deducted for each wrong answer.
- You are required to mark your answers only on the OMR Answer Sheet which has been provided to you separately with BLACK BALL POINT PEN ONLY.
- Use of Books, Notes and copying and receiving/giving assistance is not allowed. Further, use of calculator-separate or with watch, Tablets any type of mobile phones, Books, slide rules, foot rules, note books or written notes is also prohibited during the examination. Any candidate who is found either copying or receiving, giving assistance or using unfair means will be disqualified and his/her candidature will accordingly be cancelled.
- The question booklet and OMR Answer Sheet supplied to the candidate must be returned intact to the room invigilator on completion of examination before you leave examination hall. Any candidate trying to tamper, take them away or found in unauthorized possession of booklet or OMR Answer sheet, is liable for cancellation of candidature or any legal action against him/her.

PPJECI SIV

Civil Engineering

- Q1) A reinforced cement concrete beam is considered to be made of:-
a) homogeneous material b) heterogeneous material
c) composite material d) Isotropic material
- Q2) A piezometer tube is used only for measuring:-
a) moderate pressure b) low pressure
c) high pressure d) vacuum pressure
- Q3) The curvature of the earth is taken into consideration if the limit of survey is:-
a) less than 250 km² b) more than 250 km²
c) less than 100 km² d) more than 100 km²
- Q4) Granite is an example of:-
a) aqueous rocks b) metamorphic rocks
c) igneous rocks d) sedimentary rocks
- Q5) The relation between duty (D) in hectares / cumec, Delta (Δ) in meters and Base Period (B) in days:-
a) $\Delta = (8.64 B) / D$ b) $\Delta = (864 B) / D$
c) $\Delta = (86.4 B) / D$ d) $\Delta = (8640 B) / D$
- Q6) The open wells are also known as:-
a) shallow wells b) deep wells
c) dug wells d) both (a) & (c)
- Q7) The headquarter of Indian Roads Congress is at:-
a) Mumbai b) New Delhi
c) Chennai d) Hyderabad
- Q8) A type of bond in a brick masonry in which each course consist of alternate headers and stretchers, is called:-
a) English bond b) Flemish bond
c) Header bond d) Stretcher bond

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- Q9) Efflorescence in cement caused due to the excess of:
a) Alkalies b) Lime c) Silica d) Iron-Oxide
- Q10) The effective length of a column with one end effectively held in position and restrained against rotation and partially restrained against rotation but not held in position at the other end is:
a) $0.65L$ b) $0.8L$ c) $1.5L$ d) L
- Q11) The size of step commonly adopted for residential building is:-
a) $250 \text{ mm} \times 160 \text{ mm}$ b) $300 \text{ mm} \times 130 \text{ mm}$
c) $270 \text{ mm} \times 150 \text{ mm}$ d) $350 \text{ mm} \times 125 \text{ mm}$
- Q12) According to Indian Roads Congress, the maximum width of a road vehicle is:-
a) 2.25 m b) 2.35 m c) 2.45 m d) 2.55 m
- Q13) The main advantage of providing super-elevation is:-
a) to increase the stability of the fast moving vehicles
b) to decrease the intensity of stresses on the foundation
c) only (a) is correct
d) both (a) and (b) are correct
- Q14) The modulus of elasticity (E) for mild steel is approximately equal to:-
a) 10 kN/mm^2 b) 100 kN/mm^2
c) 210 kN/mm^2 d) 200 kN/mm^2
- Q15) A column that falls due to direct stress, is called:-
a) short column b) weak column
c) long column d) medium column
- Q16) Which of the following paint is highly resistant to fire:-
a) Cement paint b) Asbestos paint
c) Aluminum paint d) Enamel paint

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- Q17) A good building stone is one which does not absorb more than of its weight of water after 24 hrs immersion :-
a) 5 % b) 10 % c) 20 % d) 30 %
- Q18) The thickness of road surfacing depends upon the :-
a) type of material b) intensity of traffic
c) only (b) d) both (a) & (b)
- Q19) A riveted joint may fail by :-
a) Shearing of rivets
b) tearing of the plate across a row of rivets
c) tearing of the plate at an edge
d) any one of these
- Q20) When 1 cm on a map represents 10 m on the ground, the representative fraction of the scale is :-
a) 1/10 b) 1/100
c) 1/1000 d) 1/10000
- Q21) The commonly used lime in white washing is :-
a) fat lime b) hydraulic lime
c) quick lime d) lean lime
- Q22) Mean Sea Level for India is :-
a) MSL at Chennai b) MSL at Bombay
c) MSL at Karachi d) MSL at Vishakapatnam
- Q23) The presence of causes red colour in water :-
a) iron b) calcium carbonate
c) manganese d) sodium fluoride
- Q24) The rail gauge is distance between :-
a) outer faces of rails b) running faces of rails
c) centre to centre of rails d) none of these
- Q25) A queen post truss is commonly used for spans :-
a) upto 3.5 m b) from 3.5 m to 5 m
c) from 5 m to 8 m d) from 8 m to 12 m

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- Q26) For highly loaded columns, the concrete mix of grade is used :-
a) M 15 b) M 20 c) M 25 d) M 30
- Q27) The bending equation is :-
a) $M/I = \sigma/y = E/R$ b) $I/M = \sigma/y = E/R$
c) $I/M = y/\sigma = E/R$ d) $M/I = \sigma/y = R/E$
- Q28) Which of the following cements is expected to have the highest compressive strength after 3 days?
a) ordinary portland cement b) high alumina cement
c) rapid hardening cement d) portland pozzolana cement
- Q29) According to the Unwin's formula, the nominal diameter of rivet is :-
a) $d = t \sqrt{6}$ b) $d = 6 \sqrt{t}$
c) $d = t \sqrt{6.6}$ d) $d = 6.6 \sqrt{t}$
- Q30) High turbidity of water can be determined by :-
a) Jackson's turbidimeter b) turbidity tube
c) Bayli's turbidimeter d) none of these
- Q31) On an average, the domestic consumption under normal conditions in an Indian city as per IS : 1172 - 1971 is expected to be around :-
a) 115 litres / day / person b) 125 litres / day / person
c) 135 litres / day / person d) 145 litres / day / person
- Q32) Porosity is :-
a) Volume of voids / Volume of solids
b) Volume of voids / Total Volume
c) Volume of water / Volume of solids
d) Volume of air / Volume of voids
- Q33) The permissible pH values for public water supplies is in the range :-
a) 4.5 to 6.5 b) 6.6 to 8.5
c) 8.5 to 10.5 d) 10.5 to 14.5
- Q34) Water hammer pressure can be reduced by using :-
a) fast closing valves b) slow closing valves
c) critically closing time valves d) none of the above

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- Q35) The angle of inclined plane, at which a body just begins to slide down the plane is called the :-
a) Angle of friction
c) Angle of plane
b) Angle of slide
d) none of the above
- Q36) The size of a standard brick is :-
a) 180 x 80 x 80 mm
c) 195 x 95 x 95 mm
b) 190 x 90 x 90 mm
d) 200 x 90 x 90 mm
- Q37) The preparation of the surface of stone to obtain plain edges or to obtain stones of required size and shape is known as :-
a) Quarrying of stones
c) blasting of stones
b) dressing of stones
d) seasoning of stones
- Q38) The moisture content in a well seasoned timber is :-
a) 4 % to 6 %
c) 15 % to 20 %
b) 10 % to 12 %
d) 100 %
- Q39) The main ingredients of Portland cement are :-
a) Lime and silica
c) Silica and alumina
b) Lime and alumina
d) Lime and iron
- Q40) The initial setting time for ordinary Portland cement as per IS specifications should not be less than :-
a) 10 minutes
c) 60 minutes
b) 30 minutes
d) 90 minutes
- Q41) After storage, the strength of cement :-
a) decreases
c) remains same
b) increases
d) may increase or decrease
- Q42) The slump recommended for mass concrete is about :-
a) 25 mm to 50 mm
c) 100 mm to 125 mm
b) 50 mm to 100 mm
d) 125 mm to 150 mm
- Q43) The ultimate tensile strength of structural mild steel is about :-
a) 160 N/mm²
c) 420 N/mm²
b) 260 N/mm²
d) 520 N/mm²

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- Q44) The vehicle used in case of oil paints is usually :-
a) Linseed oil b) Water
c) Varnish d) None of the above
- Q45) The type of bond provided in brick masonry for carrying heavy loads is:-
a) Single Flemish bond b) Double Flemish bond
c) English bond d) Zigzag bond
- Q46) The type of footing which is used to transmit heavy loads through steel columns is :-
a) Raft foundation b) Grillage foundation
c) Well foundation d) Isolated footing
- Q47) The bearing capacity of a water logged soil can be improved by :-
a) Compacting the soil b) Draining the soil
c) Increasing the depth of foundation d) Grouting
- Q48) The type of roof suitable in plains where rainfall is meager and temperature is high is :-
a) Pitched and sloping roof b) Flat roof
c) Shell roof d) None of the above
- Q49) Which of the following type of estimate(s) is / are used in Civil Engineering works :-
a) Approximate Estimate b) Plinth Area Estimate
c) Detailed Estimate d) All of the above
- Q50) The principle of 'working from whole to part' is used in surveying because :-
a) Plotting becomes easy
b) Survey work can be completed quickly
c) Accumulation of errors is prevented
d) All of the above
- Q51) If the staff is not held vertical at the levelling station, the reduced level calculated from the observation would be :-
a) True R L b) More than True R L
c) Less than True R L d) None of the above

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- Q52) The type of surveying which requires least office work is :-
a) Tacheometry
b) Trigonometrical levelling
c) Plane table surveying
d) Theodolite surveying
- Q53) The ratio of tensile to compressive strength of concrete is :-
a) 0.025
b) 0.04
c) 0.1
d) 0.4
- Q54) Contour or contour lines are the imaginary lines :-
a) joining points of equal pressure on the ground
b) joining points of equal rainfall on the ground
c) joining points of equal elevation on the ground
d) None of the above
- Q55) Which of the following grades of concrete would you recommend to prepare the base for a foundation of a masonry wall :-
a) M 7.5
b) M 15
c) M 20
d) M 30
- Q56) The nominal maximum size of concrete aggregate in reinforced cement concrete is limited to :-
a) One fourth the minimum thickness of member
b) One half the minimum thickness of member
c) Equal to the minimum thickness of member
d) None of the above
- Q57) A beam is likely to have maximum crack width at failure when designed by :-
a) Working Stress Method
b) Ultimate Load Method
c) Limit State Method
d) None of the above
- Q58) Which of the following member should have maximum cover :-
a) Interior column in a building
b) Exterior column in a building
c) Column partly submerged in sea water
d) Column fully submerged in sea water
- Q59) As compared to field rivets the shop rivets are :-
a) stronger
b) weaker
c) equally strong
d) any of the above

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- Q60) Cables may be used effectively for which of the following structures :-
- a) Chimney
 - b) Suspended roof
 - c) Bridge
 - d) All the above

GENERAL KNOWLEDGE

Q61) The Char Minar is in :-

- a) Ahmedabad
- b) Fatehpur Sikri
- c) Ahmednagar
- d) Hyderabad

Q62) Who was the first woman to become the Prime Minister of a country in the world :-

- a) Benazir Bhutto
- b) Indira Gandhi
- c) Margaret Thatcher
- d) Sirimavo Bandaranaike

Q63) Which of the following is not observed in India as a National Holiday?

- a) 26th January
- b) 15th August
- c) 5th September
- d) 2nd October

Q64) The most ancient musical instrument among the following is :-

- a) Sarod
- b) Tabla
- c) Veena
- d) Sitar

Q65) Which of the following is not a classical dance?

- a) Kathak
- b) Kuchipudi
- c) Garbha
- d) Odissi

Q66) The world famous Khajuraho Sculptures are located in :-

- a) Gujarat
- b) Maharashtra
- c) Madhya Pradesh
- d) Orissa

Q67) Where is the National Defence Academy situated?

- a) Wellington
- b) New Delhi
- c) Dehradun
- d) Kharagwala

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- Q68) The state with smallest population in India is :-
a) Sikkim b) Goa c) Mizoram d) Meghalaya
- Q69) The birthday of which of the following leaders is observed as Children's Day?
a) Mrs. Indira Gandhi b) Mahatma Gandhi
c) Atal Bihari Bajpai d) Jawahar Lal Nehru
- Q70) ISI stands for :-
a) International Standards Institute
b) Indian Statistical Institute
c) Indian Standards Institution
d) Indian Services Institute
- Q71) In the number series given below one number is missing. Find out the missing number from amongst the choices
2, 8, 26, 80,
a) 120 b) 160 c) 222 d) 242
- Q72) Car:Petrol::Television:?
a) Electricity b) Transmission
c) Entertainment d) Antenna
- Q73) In the following questions, out of four given words three are alike in some respect. Which one is different :-
a) Circle b) Ellipse c) Sphere d) Cube
- Q74) Four groups of letters are given. Three of those have some similarity. Find the odd one out :-
a) cf b) ps c) wy d) LO

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Q75) P is the brother of Q and R. S is R's mother. T is P's father. Which of the following statement cannot be definitely true?

- a) Q is T's Son b) T is Q's Father
c) S is P's Mother d) P is S's Son

Q76) Find from the alternatives the missing number which can complete the series :-

5, 11, 23, 47,

- a) 63 b) 70 c) 95 d) 98

Q77) If CAT is written as B Z S, how can AUNT be written using the same code?

- a) ZIMS b) ZTMS c) BVOU d) AVOU

Q78) Choose the odd man out :-

- a) Meter b) Yard c) Mile d) Acre

Q79) In the following question, insert the group of letters from amongst the alternatives in the blank space, such that it completes the first and begins the second :-

TOR(____)AIR

- a) CK b) CH c) ESS d) KS

Q80) Root is to plant as is to human being :-

- a) Bone b) Blood c) Heart d) Pancreas

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ENGLISH

Direction (Q 81 – 85) : Read the passage given below and answer each question that follows by choosing the correct alternative.

If you eat good food and have a clean body you will be healthy. You should eat vegetables, fruits and drink milk. You should sleep for eight hours everyday. You should also wear clean clothes. Lalit is a good boy. He wakes up early and takes a bath. He has egg, milk and fruit for breakfast. He always wears clean clothes. Lalit is very healthy.

Q81) What should you do to be healthy?

- a) eat only vegetables b) eat good food and have a clean body
c) drink only milk d) eat only fruits

Q82) How long should you sleep everyday?

- a) for eight hours b) for six hours
c) for seven hours d) for ten hours

Q83) When does Lalit wake up?

- a) late b) after six hours
c) early d) after eight hours

Q84) Why is Lalit a good boy?

- a) He takes a bath b) He eat good food
c) He wears clean cloths d) All of the above

Q85) Which word in the passage is the adjectival form of 'health'?

- a) clean b) healthy c) wear d) early

Direction (Q86 – 90) : Fill in the blanks with appropriate articles /determiners / prepositions from the options given below.

Q86) Umang lives Delhi.

- a) at b) for c) in d) with

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Q87) He flies..... aeroplane.

- a) an b) a c) the d) one

Q88) She is going..... a park.

- a) at b) on c) to d) in

Q89) For one week he stayed as..... guest.

- a) we b) us c) our d) ours

Q90) I met..... soldier yesterday.

- a) the b) a c) one d) an

Direction (Q 91 – 95) : Choose the words opposite in meaning to the ones given in capitals.

Q91) CRUEL

- a) Kind b) Unkind c) Soft d) Comic

Q92) GROWTH

- a) Dislike b) Decline c) Sorrow d) Poor

Q93) FAIR

- a) Foul b) Cheap c) Humble d) Weak

Q94) DISTANT

- a) Long b) Constant c) Humble d) Near

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Q95) WICKED

- a) Bad b) Mild c) Good d) True

Directions (Q96 – 100) : Choose the words similar in meaning to the ones in capitals.

Q96) HUMANE

- a) vivid b) huge
c) kind d) true

Q97) LOYAL

- a) truthful b) faithful
c) similar d) vivid

Q98) MASSIVE

- a) Huge b) Strong
c) Many d) Small

Q99) MISERY

- a) Loss b) Falsehood
c) Fraud d) Sorrow

Q100) MALADY

- a) Music b) Illness
c) Beauty d) Liberty

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S.No.	Answers	S.No.	Answers	S.No.	Answers	S.No.	Answers
1	B	26	C	51	C	76	C
2	A	27	A	52	C	77	B
3	B	28	B	53	C	78	D
4	C	29	B	54	C	79	B
5	A	30	A	55	A	80	C
6	D	31	C	56	A	81	B
7	B	32	B	57	B	82	A
8	B	33	B	58	C	83	C
9	A	34	B	59	A	84	D
10	C	35	A	60	D	85	B
11	A	36	B	61	D	86	C
12	A	37	B	62	D	87	A
13	D	38	B	63	C	88	C
14	C	39	A	64	C	89	C
15	A	40	B	65	C	90	B
16	B	41	A	66	C	91	A
17	A	42	A	67	D	92	B
18	D	43	C	68	A	93	A
19	D	44	A	69	D	94	D
20	C	45	C	70	C	95	C
21	A	46	B	71	D	96	C
22	A	47	B	72	A	97	B
23	A	48	B	73	D	98	A
24	B	49	D	74	C	99	D
25	D	50	C	75 *	ABONOUS	100	B

Q 75 Bonus