BunkPoint MOCK TEST

RVUNL JE Civil 2026 Mock Test 1

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Building Technology and Construction Management

Q.1–7 | 7 questions

Q.1 In a CPM network, an activity has a duration of 8 days. The earliest event time at its tail event is day 6, while its head event has an earliest time of day 16 and a latest time of day 20. Its free float and total float are respectively:

(A) 6 days and 2 days

(B) 2 days and 6 days

(C) 4 days and 6 days

(D) 2 days and 4 days

Q.2 Fine aggregate of fineness modulus 2.6 and coarse aggregate of fineness modulus 7.0 are blended to obtain a combined fineness modulus of 4.8. The proportion of fine aggregate by mass is:

(A) 50%

(B) 40%

(C) 60%

(D) 45%

Q.3 Which of the following materials is used as a rigid (non-flexible) damp-proof course in buildings?

(A) Hessian-based bitumen felt bedded over a cement mortar layer

(B) Cement concrete (1:2:4) with an integral waterproofing compound

(C) Hot mastic asphalt laid over the full wall thickness

(D) Polyethylene sheet laid over a levelled mortar bed

Q.4 The vertical face between two consecutive treads of a stair is known as the:

(A) tread **(B)** riser **(C)** nosing **(D)** soffit

Q.5 Which one of the following statements about paints and varnishes is correct?

(A) Turpentine is mixed with oil paint mainly to act as the drying agent of the film

(B) Litharge is added to oil paint mainly to serve as the vehicle that carries pigment

(C) White lead used as paint base is non-poisonous and is not discoloured by sulphur gases

(D) Spirit varnish hardens mainly by evaporation of its solvent, leaving a thin resin film

Q.6 A wall surface of 80 m^2 is to be plastered 15 mm thick with cement mortar 1 : 5. Taking the dry volume of mortar as 1.25 times the wet volume, the quantity of sand required is:

(A) 1.50 m^3 **(B)** 1.00 m^3 **(C)** 1.25 m^3 **(D)** 1.20 m^3

Q.7 Which of the following is a natural method of seasoning timber?

(A) Water seasoning **(B)** Kiln seasoning

(C) Chemical seasoning **(D)** Electrical seasoning

Fluid Mechanics

Q.8–13 | 6 questions

Q.8 A tank of plan area 4 m^2 is emptied through a sharp-edged orifice of area 0.005 m^2 at its bottom, with $C_d = 0.6$. The time taken for the water level to fall from 4 m to 1 m above the orifice is nearly:

(A) 301 s **(B)** 602 s **(C)** 1204 s **(D)** 1806 s

Q.9 A water jet strikes a fixed flat plate held normal to the jet and exerts a force F. If the same jet strikes the centre of a fixed symmetrical hemispherical vane and is deflected through 180°, the force on the vane is:

(A) $2F$ **(B)** $F/2$ **(C)** $3F$ **(D)** $4F$

Q.10 Water flows at 4 m/s in a pipe that suddenly enlarges into a larger pipe where the velocity becomes 1 m/s. Taking $g = 9.81$ m/s^2, the head loss due to the sudden enlargement is nearly:

(A) 0.765 m **(B)** 0.815 m **(C)** 0.459 m **(D)** 0.051 m

Q.11 A rectangular channel 4 m wide carries water at a depth of 1 m. Manning's $n = 0.025$ and the bed slope is 1 in 1600. The discharge is nearly:

(A) 4.00 m^3/s **(B)** 3.05 m^3/s **(C)** 3.45 m^3/s **(D)** 2.54 m^3/s

Q.12 Which one of the following statements about compound pipe systems is correct?

(A) For pipes in series, the head loss is the same in every pipe and the discharges add up

(B) For pipes in parallel, the discharge is the same in every branch and the head losses add up

(C) For pipes in parallel, the head loss is the same across every branch and the discharges add up

(D) For pipes in series, the discharge in each pipe differs and the total loss equals the largest pipe loss

Q.13 Oil of kinematic viscosity 4×10^{-5} m^2/s flows at 0.4 m/s through a 50 mm diameter pipe. The flow regime and Darcy friction factor are:

(A) Laminar, $f = 0.128$ **(B)** Laminar, $f = 0.032$

(C) Turbulent, $f = 0.128$ **(D)** Turbulent, $f = 0.032$

Surveying, Estimating and Field Engineering

Q.14–20 | 7 questions

Q.14 Simpson's one-third rule for computing area from equally spaced offsets can be applied only when the:

(A) number of ordinates is even, so the intervals are odd in number

(B) number of intervals is a multiple of three, so arcs group in triplets

(C) ordinates are measured at unequal spacing along the base line

(D) number of ordinates is odd, so the intervals are even in number

Q.15 The observed fore bearing and back bearing of line AB are 40°00′ and 222°00′. Station A is free from local attraction. If the observed fore bearing of BC is 105°30′, its correct fore bearing is:

(A) 107°30′ **(B)** 105°30′ **(C)** 103°30′ **(D)** 101°30′

Q.16 As per standard measurement practice (IS 1200), plastering of a wall surface is measured in:

(A) cubic metre **(B)** running metre **(C)** square metre **(D)** number

Q.17 Modular bricks of nominal size 200 × 100 × 100 mm (including mortar) are used for a 200 mm thick wall, 6 m long and 3 m high. Ignoring openings, the number of bricks required is:

(A) 2339 **(B)** 900 **(C)** 3600 **(D)** 1800

Q.18 In the analysis of rates for a work item, which of the following is NOT a direct cost component?

(A) Cost of materials at site **(B)** Wages of skilled and unskilled labour

(C) Contractor's profit and overheads **(D)** Hire charges of tools and plant

Q.19 A simple circular curve of radius 300 m is to be set out between two straights with a deflection angle of 60°. The tangent length is nearly:

(A) 173.2 m **(B)** 314.2 m **(C)** 346.4 m **(D)** 519.6 m

Q.20 A closed traverse of perimeter 1000 m has an algebraic sum of latitudes of +0.30 m and of departures of −0.40 m. The relative precision of the traverse is:

(A) 1 in 3333 **(B)** 1 in 2500 **(C)** 1 in 2000 **(D)** 1 in 1429

Irrigation and Water Resources

Q.21–24 | 4 questions

Q.21 Which component of a diversion headwork keeps a deep scouring channel in front of the canal head regulator free from silt?

(A) Fish ladder **(B)** Divide wall **(C)** Under-sluices **(D)** Guide bank

Q.22 A gravity dam section has a total weight of 36000 kN per metre length, an uplift force of 6000 kN per metre and a horizontal water thrust of 15000 kN per metre. With a friction coefficient of 0.6 at the base, the factor of safety against sliding (friction only) is:

(A) 1.20 **(B)** 1.44 **(C)** 1.68 **(D)** 2.00

Q.23 In Kennedy's silt theory, the critical velocity ratio (CVR) is the ratio of:

(A) critical velocity to the mean velocity of flow

(B) mean velocity of flow to the critical velocity

(C) surface velocity to the mean velocity of flow

(D) bed velocity to the surface velocity of flow

Q.24 The storage in a reservoir lying below the level of the lowest outlet, which cannot be drawn for supply, is called:

(A) useful storage **(B)** surcharge storage

(C) valley storage **(D)** dead storage

Theory of Structures and Strength of Materials

Q.25–30 | 6 questions

Q.25 A simply supported beam of rectangular section 150 mm wide and 300 mm deep spans 4 m and carries a central point load of 30 kN, neglecting self-weight. The maximum bending stress is:

(A) 13.33 N/mm^2 **(B)** 26.67 N/mm^2 **(C)** 6.67 N/mm^2 **(D)** 3.33 N/mm^2

Q.26 The Euler buckling load of a slender column fixed at both ends is how many times that of an identical column hinged at both ends?

(A) 2 **(B)** 4 **(C)** 8 **(D)** 16

Q.27 For no tension to develop at the base of a masonry dam or wall of base width B, the resultant must cut the base within the middle third, so that its eccentricity does not exceed:

(A) $B/2$ **(B)** $B/3$ **(C)** $B/4$ **(D)** $B/6$

Q.28 A rectangular beam section 100 mm wide and 200 mm deep carries a shear force of 30 kN. The maximum shear stress is:

(A) 2.25 N/mm^2 **(B)** 1.50 N/mm^2 **(C)** 3.00 N/mm^2 **(D)** 3.38 N/mm^2

Q.29 The maximum deflection of a cantilever of length L carrying a uniformly distributed load w per unit length over the entire span is:

(A) $\frac{wL^4}{8EI}$ **(B)** $\frac{5wL^4}{384EI}$ **(C)** $\frac{wL^4}{48EI}$ **(D)** $\frac{wL^4}{3EI}$

Q.30 A steel bar is rigidly held between two unyielding walls and its temperature rises by 40°C. Taking $\alpha = 12 \times 10^{-6}$ per °C and $E = 2 \times 10^5$ N/mm^2, the thermal stress developed is:

(A) 48 N/mm^2 **(B)** 192 N/mm^2 **(C)** 9.6 N/mm^2 **(D)** 96 N/mm^2

Structural Analysis

Q.31–35 | 5 questions

Q.31 Which one of the following statements about energy methods of finding deflection is correct?

(A) The partial derivative of strain energy with respect to a load gives the deflection of its point of application

(B) In the unit load method, the deflection is found from the integral of M^2/EI over the entire length of the member

(C) The partial derivative of strain energy with respect to a load gives the bending moment at the point of application

(D) Castigliano's theorem for deflection holds without change for structures with nonlinear force-displacement behaviour

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Q.32 An influence line for a reaction, shear or bending moment shows the variation of that function:

(A) along the span due to a fixed concentrated load

(B) at every section when the structure is heated uniformly

(C) at a moving section due to the total dead load

(D) at a fixed section as a unit load moves over the span

Q.33 A rolling uniformly distributed load of intensity 10 kN/m and length 4 m moves over a simply supported span of 12 m. The absolute maximum bending moment occurs at midspan, with the load placed symmetrically, and equals:

(A) 100 kN m **(B)** 120 kN m **(C)** 180 kN m **(D)** 20 kN m

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Q.34 A rectangular steel section 100 mm wide and 200 mm deep has a yield stress of 250 N/mm^2. Its plastic moment capacity is:

(A) 167 kN m **(B)** 125 kN m **(C)** 250 kN m **(D)** 375 kN m

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Q.35 In a plane truss, two non-collinear members meet at an unloaded joint that has no support reaction. Both members are:

(A) zero-force members **(B)** in tension

(C) in compression **(D)** redundant members

Soil Mechanics and Foundation Engineering

Q.36–42 | 7 questions

Q.36 A 3 m thick sand layer ($\gamma = 17$ kN/m^3) lies above the water table and overlies a saturated clay layer 4 m thick ($\gamma_{sat} = 18.5$ kN/m^3). Taking $\gamma_w = 9.81$ kN/m^3, the effective vertical stress at the bottom of the clay layer is nearly:

(A) 125.0 kN/m^2 **(B)** 56.3 kN/m^2 **(C)** 85.8 kN/m^2 **(D)** 34.8 kN/m^2

Q.37 A clay has a liquid limit of 48%, a plastic limit of 26% and a natural water content of 35%. Its liquidity index is nearly:

(A) 0.59 **(B)** 0.41 **(C)** 0.19 **(D)** 0.26

Q.38 In a constant head permeability test, 500 cm^3 of water is collected in 5 minutes through a soil specimen 15 cm long and 50 cm^2 in area under a constant head of 30 cm. The coefficient of permeability is:

(A) 1.00×10^{0} cm/s **(B)** 6.67×10^{-2} cm/s

(C) 1.67×10^{-2} cm/s **(D)** 1.67×10^{-3} cm/s

Q.39 A sand has a specific gravity of solids of 2.65 and a void ratio of 0.65. The critical hydraulic gradient for the quick condition is:

(A) 1.00 **(B)** 1.61 **(C)** 2.21 **(D)** 2.54

Q.40 A thin-walled sampler has an inside diameter of 75 mm at the cutting edge and an outside diameter of 80 mm. Its area ratio is nearly:

(A) 12.1% **(B)** 13.8% **(C)** 6.7% **(D)** 27.6%

Q.41 In Terzaghi's bearing capacity equation, the term $0.4\gamma BN_\gamma$ is used for a:

(A) strip footing **(B)** circular footing

(C) rectangular footing with $L = 2B$ **(D)** square footing

Q.42 In a well foundation, the lowest ring, which carries the cutting edge and facilitates sinking, is called the:

(A) steining **(B)** bottom plug **(C)** well cap **(D)** well curb

Design of RC and Masonry Structures

Q.43–49 | 7 questions

Q.43 A doubly reinforced rectangular beam section becomes necessary when:

(A) the factored moment is smaller than the balanced moment of resistance of the section

(B) the nominal shear stress exceeds the maximum value permitted for the grade

(C) the factored moment exceeds the limiting moment of a singly reinforced section

(D) the span to effective depth ratio exceeds the code limit for the beam

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Q.44 As per IS 456, the limiting value of $x_{u,max}/d$ for Fe 500 steel is:

(A) 0.53 **(B)** 0.48 **(C)** 0.43 **(D)** 0.46

Q.45 For design of a lintel over an opening in masonry, the load from the wall above is usually taken as the weight of masonry contained in:

(A) a rectangle of height equal to the span of the opening

(B) a rectangle extending up to the roof level above

(C) an equilateral triangle on the span of the opening

(D) a semicircle drawn on the span of the opening

Q.46 As per IS 456, a one-way slab has an effective depth of 90 mm. The maximum permitted spacing of main reinforcement is:

(A) 300 mm **(B)** 450 mm **(C)** 360 mm **(D)** 270 mm

Q.47 As per IS 456, the nominal concrete cover for a reinforced concrete beam under moderate exposure is:

(A) 20 mm **(B)** 30 mm **(C)** 40 mm **(D)** 45 mm

Q.48 A staircase made of two flights running in opposite directions, with a landing between them and no open well between the flights, is known as a:

(A) open-newel staircase **(B)** dog-legged staircase

(C) geometrical staircase **(D)** spiral staircase

Q.49 In the working stress method of IS 456, the modular ratio for M20 concrete ($\sigma_{cbc} = 7\ \mathrm{N/mm^2}$) is:

(A) 13.33 **(B)** 18.67 **(C)** 10.98 **(D)** 9.33

Design of Steel Structures

Q.50–54 | 5 questions

Q.50 As per IS 800:2007, which one of the following statements on bolted connections is correct?

(A) The minimum pitch of bolts is 1.5 times the nominal diameter of the bolt

(B) The minimum pitch of bolts is 2.5 times the nominal diameter of the bolt

(C) The minimum end distance is 1.0 times the hole diameter for rolled edges

(D) The minimum edge distance is 2.5 times the nominal diameter of the bolt

Q.51 A steel column carries a factored axial load of 1800 kN on a concrete pedestal of grade M20. Taking the bearing strength of concrete as $0.45f_{ck}$, the minimum area of base plate required is:

(A) 150000 mm^2 **(B)** 250000 mm^2 **(C)** 100000 mm^2 **(D)** 200000 mm^2

Q.52 Lateral torsional buckling of an I-section beam is prevented mainly by:

(A) providing bearing stiffeners at the supports

(B) increasing the thickness of the web plate

(C) using higher grade bolts at the beam splices

(D) restraining the compression flange laterally

Q.53 A laterally supported steel beam of plastic section ($\beta_b = 1$) must resist a factored moment of 150 kN m. With $f_y = 250$ N/mm^2 and $\gamma_{m0} = 1.10$, the minimum plastic section modulus required is:

(A) 600 cm^3 **(B)** 660 cm^3 **(C)** 726 cm^3 **(D)** 825 cm^3

Q.54 As per IS 800:2007, a cross-section that can develop its plastic moment but has inadequate rotation capacity for plastic hinge formation is classified as:

(A) plastic (Class 1) **(B)** semi-compact (Class 3)

(C) slender (Class 4) **(D)** compact (Class 2)

Construction Technology

Q.55–58 | 4 questions

Q.55 Which earth-moving machine, fitted with a blade mounted between its front and rear axles, is mainly used for fine grading and shaping of surfaces?

(A) Dragline **(B)** Clamshell **(C)** Bulldozer **(D)** Motor grader

Q.56 Which one of the following is a main advantage of precast concrete elements compared with cast-in-situ construction?

(A) No joints are required between adjacent structural elements

(B) Lower handling and transport effort for heavy elements

(C) Closer quality control because casting is done in a factory

(D) Curing of the concrete becomes unnecessary on site

Q.57 The maximum drawdown of the water table that a single stage of well points can achieve is limited by suction lift to about:

(A) 1 to 2 m **(B)** 10 to 12 m **(C)** 5 to 6 m **(D)** 15 to 20 m

Q.58 Which material is generally used as a compressible filler in an expansion joint of a concrete structure?

(A) Bitumen-impregnated fibre board **(B)** Dense cement mortar filling

(C) Rich cement concrete filling **(D)** Epoxy mortar grouting bed

Civil Engineering Drawing

Q.59–60 | 2 questions

Q.59 In AutoCAD, which command creates a line parallel to an existing line at a specified distance?

(A) MIRROR **(B)** OFFSET **(C)** TRIM **(D)** EXTEND

Q.60 In a reinforcement detailing drawing, the note "10 mm dia bars @ 150 mm c/c" means that the bars are placed at:

(A) 150 mm clear gap between bars **(B)** 150 mm centre-to-centre spacing

(C) 150 mm cover from each face **(D)** 150 mm length for each bar

Get the Answers with Explanations

RVUNL JE Civil 2026 Mock Test 1

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