BunkPoint MOCK TEST

BTSC JE (Civil) 2026 Mock Test 1

Total Questions: **80** | Sections: **13**

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Building Materials and Construction

Q.1–6 | 6 questions

Q.1 In English bond brickwork, the bricks are laid in:

(A) header courses repeated at every third course level

(B) two stretcher courses followed by one header course

(C) alternate headers and stretchers in every course

(D) alternate courses of headers and of stretchers

Q.2 The main purpose of seasoning timber before use in construction is to:

(A) increase its density to improve load capacity

(B) raise its moisture content for better workability

(C) reduce moisture content and lessen shrinkage and decay

(D) remove the knots and shakes present in the log

Q.3 The depression (frog) formed on one face of a brick is mainly meant to:

(A) improve the thermal insulation of the wall

(B) provide a key for holding the mortar firmly

(C) raise the compressive strength of the brick

(D) permit easy cutting of the brick into closers

Q.4 Compared with sapwood, the heartwood of a tree is:

(A) darker, softer and more liable to decay **(B)** lighter, softer and more liable to decay

(C) lighter, denser and more liable to decay **(D)** darker, denser and more durable

Q.5 Collapsible steel doors are generally provided at:

(A) shops and godowns for wide openings with security

(B) bathrooms where complete privacy is required

(C) operation theatres needing an air-tight closure

(D) bedrooms of houses where sound insulation is needed

Q.6 In single (bricklayer's) scaffolding, one end of each putlog rests in a hole in the wall and the other end rests on:

(A) a ledger running parallel to the wall

(B) a second row of standards beyond the ledger

(C) needle beams projecting from the wall

(D) raking props bearing on the ground

Engineering Mechanics

Q.7–9 | 3 questions

Q.7 A lifting machine raises a load of 600 N with an effort of 100 N. If its velocity ratio is 8, its efficiency is:

(A) 48% **(B)** 75% **(C)** 133% **(D)** 12.5%

Q.8 Two forces of 6 N and 8 N act at a point at right angles to each other. Their resultant is:

(A) 2 N **(B)** 14 N **(C)** 100 N **(D)** 10 N

Q.9 The angle of repose of a body on an inclined plane is numerically equal to:

(A) half the angle of friction between the surfaces

(B) the angle of friction between the surfaces

(C) twice the angle of friction between the surfaces

(D) the complement of the angle of friction

Mechanics of Materials

Q.10–18 | 9 questions

Q.10 For steel, the value of Poisson's ratio is approximately:

(A) 0.3 **(B)** 0.03 **(C)** 3.0 **(D)** 0.7

Q.11 Euler's formula is not applicable to short columns because:

(A) the modulus of elasticity varies along their length

(B) the Euler load falls below the crushing load of the section

(C) the Euler load exceeds the crushing load of the section

(D) the slenderness ratio exceeds about 180 for such columns

Q.12 For a simply supported beam carrying only a uniformly distributed load, the bending moment diagram is a:

(A) parabolic curve with zero value at midspan

(B) parabolic curve with maximum at midspan

(C) straight line rising to a maximum at midspan

(D) rectangle of constant height over the span

Q.13 The effective length of a column of length L with one end fixed and the other end free is:

(A) $0.7L$ **(B)** L **(C)** $0.5L$ **(D)** $2L$

Q.14 A steel bar of length 2 m has an area of 400 mm^2 over the first 1 m and 200 mm^2 over the next 1 m. It carries an axial pull of 20 kN. Taking E = 200 GPa, the total elongation is:

(A) 1.00 mm **(B)** 0.67 mm **(C)** 0.50 mm **(D)** 0.75 mm

Q.15 In the stress-strain curve of mild steel, the point beyond which the strain increases appreciably with almost no increase in stress is the:

(A) ultimate stress point **(B)** yield point

(C) limit of proportionality **(D)** fracture point

Q.16 For Tor steel bars having no definite yield point, the yield stress is taken as the stress that leaves a permanent strain of:

(A) 2% **(B)** 0.02% **(C)** 0.2% **(D)** 0.1%

Q.17 A material has E = 200 GPa and Poisson's ratio 0.25. Its modulus of rigidity is:

(A) 160 GPa **(B)** 133 GPa **(C)** 80 GPa **(D)** 100 GPa

Q.18 A steel rod is rigidly fixed between two walls at 20°C and heated to 60°C. Taking $E = 2\times10^5$ N/mm^2 and $\alpha = 12 \times 10^{-6}$ per °C, the stress developed is:

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

Surveying

Q.19–27 | 9 questions

Q.19 A tie line in chain surveying is run mainly to:

(A) join two points on main lines to take interior details

(B) fix the longest line forming the frame of the survey

(C) measure perpendicular distances of boundary points

(D) set out right angles at the chain stations

Q.20 In fly levelling, the difference of level between two points that are far apart is found by:

(A) observing reciprocal sights from both banks

(B) taking many intermediate sights at close intervals

(C) taking back sights and fore sights alone

(D) setting the level midway and using the stadia hairs

Q.21 Direct ranging of a survey line is possible only when its two end stations are:

(A) so far apart that rods cannot be seen

(B) intervisible with no obstruction between them

(C) hidden from each other by a rising ground

(D) separated by a wide pond or river valley

Q.22 The principle of working from the whole to the part in surveying is followed to:

(A) prevent accumulation of errors in the work

(B) avoid the need for taking offsets

(C) speed up the plotting of details

(D) reduce the number of instruments needed

Q.23 In the transit rule of traverse adjustment, the correction to the latitude of a line is proportional to:

(A) the departure of that line **(B)** the latitude of that line

(C) the bearing of that line **(D)** the length of that line

Q.24 The fore bearing and back bearing of a line PQ are observed as 75°30′ and 257°00′. If station P is free from local attraction, the correct back bearing of PQ is:

(A) 258°30′ **(B)** 255°30′ **(C)** 254°00′ **(D)** 256°15′

Q.25 The contour interval on a contour map is:

(A) constant throughout the map **(B)** larger where the ground is steeper

(C) smaller where the ground is flatter **(D)** equal to the horizontal equivalent

Q.26 Surveys that take the curvature of the earth into account are called:

(A) plane surveys **(B)** topographic surveys

(C) geodetic surveys **(D)** cadastral surveys

Q.27 Each link of a 20 m metric chain has a length of:

(A) 0.2 m **(B)** 0.3 m **(C)** 0.5 m **(D)** 0.1 m

Concrete Technology

Q.28–33 | 6 questions

Q.28 Fibre reinforced concrete is mainly used to improve the:

(A) post-cracking toughness and crack control

(B) density by replacing coarse aggregate with fibre

(C) compressive strength to very high levels

(D) workability and slump retention of the mix

Q.29 The characteristic compressive strength that defines the grade of concrete is specified at the age of:

(A) 90 days **(B)** 28 days **(C)** 7 days **(D)** 3 days

Q.30 The aggregate impact value test measures the resistance of aggregate to:

(A) chemical attack by sulphates **(B)** gradually applied compressive load

(C) sudden shock or impact load **(D)** surface wear by rubbing action

Q.31 If cement is stored for a long time in humid conditions, it generally:

(A) keeps its strength but sets slower **(B)** forms lumps and loses strength

(C) gains strength and sets faster **(D)** becomes finer and hardens quicker

Q.32 Portland Pozzolana Cement is made by:

(A) adding excess gypsum and calcium chloride to clinker

(B) grinding OPC clinker with fly ash or calcined clay

(C) burning limestone with high alumina bauxite

(D) grinding clinker with more than 65% blast furnace slag

Q.33 Rapid hardening Portland cement attains in 3 days the strength that ordinary Portland cement attains in:

(A) 1 day **(B)** 28 days **(C)** 7 days **(D)** 14 days

Geotechnical Engineering

Q.34–40 | 7 questions

Q.34 As per the IS soil classification, a soil is called fine-grained when the percentage passing the 75 micron sieve is:

(A) more than 12% **(B)** more than 50% **(C)** less than 50% **(D)** more than 85%

Q.35 For a fully saturated soil, the relation between void ratio e, water content w and specific gravity of solids G is:

(A) $e = G/w$ **(B)** $e = w/G$ **(C)** $w = eG$ **(D)** $e = wG$

Q.36 The relative density (density index) of a cohesionless soil is given by:

(A) $\frac{e_{max} - e}{e_{max} - e_{min}}$ **(B)** $\frac{e_{max} - e}{e_{max} + e_{min}}$

(C) $\frac{e - e_{min}}{e_{max} - e_{min}}$ **(D)** $\frac{e_{max} - e_{min}}{e_{max} - e}$

Q.37 For a purely cohesionless soil, the Mohr-Coulomb shear strength equation reduces to:

(A) $\tau = c$ **(B)** $\tau = \sigma \cot \phi$ **(C)** $\tau = \sigma \tan \phi$ **(D)** $\tau = c + \sigma$

Q.38 Which laboratory test permits control of drainage and measurement of pore water pressure during shearing?

(A) Unconfined compression test **(B)** Triaxial compression test

(C) Direct shear test in a box **(D)** Laboratory vane shear test

Q.39 A sand has $D_{60} = 0.60$ mm, $D_{30} = 0.30$ mm and $D_{10} = 0.10$ mm. Its coefficients C_u and C_c are respectively:

(A) 6 and 0.67 **(B)** 3 and 1.5 **(C)** 0.17 and 1.5 **(D)** 6 and 1.5

Q.40 A soil has water content 20%, specific gravity of solids 2.70 and degree of saturation 80%. Its void ratio is:

(A) 1.35 **(B)** 0.54 **(C)** 0.675 **(D)** 0.432

Hydraulics

Q.41–46 | 6 questions

Q.41 A floating body is in stable equilibrium when its metacentre lies:

(A) above the centre of gravity **(B)** at the centre of gravity

(C) below the centre of gravity **(D)** at the centre of buoyancy

Q.42 A vertical rectangular surface of depth d has its top edge at the free surface of a liquid. The depth of its centre of pressure is:

(A) $\frac{d}{3}$ **(B)** $\frac{d}{2}$ **(C)** $\frac{2d}{3}$ **(D)** $\frac{3d}{4}$

Q.43 A reciprocating pump is classified as a:

(A) rotodynamic (velocity) pump **(B)** centrifugal (volute) pump

(C) axial flow (propeller) pump **(D)** positive displacement pump

Q.44 For laminar flow in a circular pipe, the Darcy friction factor f is equal to:

(A) $\frac{128}{Re}$ **(B)** $\frac{16}{Re}$ **(C)** $\frac{64}{Re}$ **(D)** $\frac{32}{Re}$

Q.45 A Kaplan turbine is suitable for:

(A) high head and large discharge **(B)** low head and small discharge

(C) high head and small discharge **(D)** low head and large discharge

Q.46 A liquid has a specific gravity of 0.8. Its density in kg/m^3 is:

(A) 8000 **(B)** 1250 **(C)** 800 **(D)** 80

Irrigation Engineering

Q.47–51 | 5 questions

Q.47 The moisture content of a soil after free gravity drainage has practically stopped is called its:

(A) saturation capacity **(B)** field capacity

(C) hygroscopic coefficient **(D)** wilting point

Q.48 Drip irrigation is most suitable for:

(A) wheat fields irrigated through wide flooded borders

(B) paddy fields needing a deep layer of standing water

(C) orchards and widely spaced crops in water-scarce areas

(D) closely sown fodder grown on level flooded plots

Q.49 A canal aligned approximately parallel to the contour lines of a hilly area is a:

(A) watershed canal **(B)** contour canal

(C) branch canal **(D)** side slope canal

Q.50 The main purpose of a diversion headworks on a river is to:

(A) generate power from the river discharge

(B) store water for use during the monsoon season

(C) discharge flood water to the sea quickly

(D) raise the water level and divert it into the canal

Q.51 A crop has a base period of 120 days and a duty of 1440 hectares per cumec at the field. The delta is:

(A) 0.72 m **(B)** 7.2 m **(C)** 1.44 m **(D)** 0.072 m

Transportation Engineering

Q.52–58 | 7 questions

Q.52 Extra widening of a pavement on a horizontal curve consists of mechanical widening and:

(A) psychological widening **(B)** geometric widening

(C) transition widening **(D)** gradient widening

Q.53 In the aggregate impact test, the impact value is the percentage by weight of fines passing which IS sieve after 15 blows?

(A) 1.18 mm **(B)** 2.36 mm **(C)** 4.75 mm **(D)** 600 micron

Q.54 A tack coat is applied on an existing bituminous surface to:

(A) make the new surface skid resistant **(B)** seal the voids of a granular base course

(C) give a bond between old and new surfaces **(D)** waterproof the subgrade before filling

Q.55 In a CBR test, the load at 2.5 mm penetration is 6.72 kN while the standard load at 2.5 mm is 13.44 kN. The CBR value is:

(A) 6.72% **(B)** 25% **(C)** 200% **(D)** 50%

Q.56 Traffic volume is usually expressed in:

(A) kilometres per hour **(B)** seconds per vehicle

(C) vehicles per kilometre **(D)** vehicles per hour

Q.57 The rail section most widely used on Indian Railways is the:

(A) flat footed rail **(B)** bull headed rail

(C) double headed rail **(D)** grooved rail

Q.58 Among the road classes of the Nagpur Road Plan, the lowest category providing access to villages is:

(A) Village Roads **(B)** Other District Roads

(C) Major District Roads **(D)** State Highways

Environmental Engineering

Q.59–64 | 6 questions

Q.59 The detention time of a sedimentation tank is calculated as:

(A) discharge divided by tank volume
(B) tank depth multiplied by discharge
(C) discharge divided by surface area
(D) tank volume divided by discharge

Q.60 A town has a population of 40,000. Using the geometrical increase method with a growth rate of 10% per decade, its population after two decades will be:

(A) 52,000 **(B)** 44,000 **(C)** 48,000 **(D)** 48,400

Q.61 Hardness of water is mainly caused by dissolved salts of:

(A) sodium and potassium
(B) iron and aluminium
(C) calcium and magnesium
(D) silicon and phosphorus

Q.62 The desirable pH range of drinking water as per BIS (IS 10500) is:

(A) 6.5 to 8.5 **(B)** 7.5 to 9.5 **(C)** 6.0 to 9.0 **(D)** 5.0 to 7.0

Q.63 In the activated sludge process, returning sludge from the secondary clarifier is done to:

(A) screen out grit before the aeration tank
(B) kill pathogens in the secondary effluent
(C) maintain active micro-organisms in the aeration tank
(D) supply dissolved oxygen to the aeration tank

Q.64 In a separate system of sewerage:

(A) sewage and storm water flow in one common sewer
(B) sewage is carried through open surface drains
(C) storm water is treated along with raw sewage
(D) sewage and storm water flow in different sewers

RCC Design

Q.65–71 | 7 questions

Q.65 For a singly reinforced beam using Fe415 steel, the limiting value of $x_{u,max}/d$ as per IS 456 is:

(A) 0.40 **(B)** 0.53 **(C)** 0.48 **(D)** 0.46

Q.66 In an RC beam, vertical stirrups are provided mainly to resist:

(A) diagonal tension due to shear force **(B)** compressive stress at the top fibre

(C) shrinkage cracks in the cover zone **(D)** flexural tension in the bottom fibre

Q.67 The limiting moment of resistance of a singly reinforced rectangular beam using Fe415 steel is:

(A) $0.148 f_{ck} bd^2$ **(B)** $0.133 f_{ck} bd^2$ **(C)** $0.36 f_{ck} bd^2$ **(D)** $0.138 f_{ck} bd^2$

Q.68 As per IS 456, an RC column is treated as short when the ratio of its effective length to its least lateral dimension is less than:

(A) 20 **(B)** 8 **(C)** 15 **(D)** 12

Q.69 As per IS 456:2000, the partial safety factors for concrete and steel in limit state design are respectively:

(A) 1.5 and 1.15 **(B)** 1.5 and 1.5 **(C)** 1.0 and 1.15 **(D)** 1.15 and 1.5

Q.70 As per IS 456, the maximum area of tension reinforcement in a beam should not exceed:

(A) 4% of the gross sectional area **(B)** 2% of the gross sectional area

(C) 8% of the gross sectional area **(D)** 6% of the gross sectional area

Q.71 For the design bending moment of an isolated footing under a column, the critical section is taken at:

(A) the centre line of the footing slab **(B)** one effective depth from the face

(C) the face of the column itself **(D)** half the effective depth from the face

Steel Structures

Q.72–75 | 4 questions

Q.72 A weld made by depositing metal in the groove between two plates placed edge to edge in the same plane is a:

(A) slot weld **(B)** butt weld **(C)** plug weld **(D)** fillet weld

Q.73 A beam is called laterally unsupported when its compression flange is:

(A) held against sideways movement by a slab **(B)** fixed against rotation at both its ends

(C) connected to the web by double angles **(D)** free to move sideways between supports

Q.74 A main advantage of high strength friction grip (HSFG) bolts over ordinary bolts is that:

(A) no special tightening equipment is needed

(B) the joint does not slip under service loads

(C) they allow larger bolt hole clearance

(D) they cost much less than ordinary black bolts

Q.75 As per IS 800:2007, the partial safety factor for material γ_{m0} for yielding and buckling is:

(A) 1.25 **(B)** 1.50 **(C)** 1.10 **(D)** 1.00

Estimating, Costing and Valuation

Q.76–80 | 5 questions

Q.76 The number of modular bricks (nominal size 20 cm × 10 cm × 10 cm with mortar) required per cubic metre of brickwork is:

(A) 400 **(B)** 250 **(C)** 650 **(D)** 500

Q.77 The abstract of estimate is prepared by:

(A) listing the dimensions of every item with its number

(B) analysing the cost of materials and labour per unit

(C) recording actual work done by the contractor on site

(D) multiplying quantity of each item by its rate and totalling

Q.78 The quantity of cement required for 1 m^3 of 1:2:4 nominal mix concrete (dry volume factor 1.54) is approximately:

(A) 0.22 m^3 **(B)** 0.44 m^3 **(C)** 0.308 m^3 **(D)** 0.154 m^3

Q.79 The weight of a reinforcing steel bar of diameter d mm per metre length is approximately:

(A) $\frac{d^2}{324}$ kg **(B)** $\frac{d^2}{162}$ kg **(C)** $\frac{d^2}{81}$ kg **(D)** $\frac{d^2}{16.2}$ kg

Q.80 An embankment 100 m long has a top width of 10 m, height 2 m and side slopes 2 horizontal to 1 vertical. The volume of earthwork is:

(A) 2800 m^3 **(B)** 2000 m^3 **(C)** 3600 m^3 **(D)** 2400 m^3

Get the Answers with Explanations

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