

5th sem engineering civil question paper

Download Complete File

5th Semester Engineering Civil Question Paper: Questions and Answers

Paragraph 1: Structural Analysis

- **Question:** Determine the stresses at point C in the beam shown below:

- [Image of a beam with a point load and reactions]

- **Answer:** Assuming a simply supported beam, the bending stress at point C is:

$$\sigma = M \cdot c / I = (P \cdot L / 4) \cdot (h / 2) / ((b h^3) / 12) = 3 \cdot P \cdot L / (4 \cdot b \cdot h^2)$$

Paragraph 2: Soil Mechanics

- **Question:** A cohesionless soil has a dry unit weight of 16 kN/m³ and a void ratio of 0.6. Determine the relative density of the soil.

- **Answer:** The relative density (D_r) is calculated as:

$$D_r = (e_{\max} - e) / (e_{\max} - e_{\min})$$

where e_{\max} is the maximum void ratio and e_{\min} is the minimum void ratio. Assuming a spherical soil particle shape, $e_{\max} = 1$ and $e_{\min} = e = 0.6$. Therefore, $D_r = (1 - 0.6) / (1 - 0.6) = 1$.

Paragraph 3: Reinforced Concrete Design

- **Question:** Design a rectangular beam to carry a live load of 5 kN/m and a dead load of 3 kN/m over a span of 5 m. Assume $f'_c = 20$ MPa and $f_y = 400$ MPa.
- **Answer:** Using the ultimate strength method, the required area of steel is calculated as:

$$A_s = (M_u/d) * (f_y / 0.85 * f'_c) = (5 * 5^2 / 8) * (400 / 0.85 * 20 * 10^6) = 0.00115 \text{ m}^2$$

Paragraph 4: Water Resources Engineering

- **Question:** A reservoir has a surface area of 10 km² and an average depth of 15 m. If the annual rainfall over the catchment area is 1200 mm, determine the water yield of the reservoir.
- **Answer:** The water yield is calculated as:

$$\text{Water yield} = \text{Rainfall} * \text{Catchment area} * \text{Runoff coefficient}$$

Assuming a runoff coefficient of 0.7, the water yield is:

$$\text{Water yield} = 1200 \text{ mm} * 10 \text{ km}^2 * 0.7 = 8400 \text{ m}^3$$

Paragraph 5: Transportation Engineering

- **Question:** The hourly volume of traffic on a highway is 1000 vehicles. The proportion of heavy vehicles is 15%. Determine the Design Hourly Volume (DHV) of traffic.
- **Answer:** The DHV is calculated as:

$$\text{DHV} = \text{Hourly volume} * \text{Peak hour factor} * \text{Heavy vehicle factor}$$

Assuming a peak hour factor of 0.9 and a heavy vehicle factor of 1.2, the DHV is:

$$\text{DHV} = 1000 * 0.9 * 1.2 = 972 \text{ vehicles/hr}$$

football stadium scavenger hunt yamaha 90hp service manual outboard 2 stroke
before the throne a comprehensive guide to the importance and practice of worship
rutters child and adolescent psychiatry gnu radio usrp tutorial wordpress honda 15
hp outboard service manual bal chemistry guided reading and study workbook
answers chapter 4 1997 honda civic lx owners manual arctic cat 2008 atv dvx 400
service manual peoplesoft payroll training manual accounting test questions answers
1998 nissan sentra service workshop manual download endoscopic carpal tunnel
release ford transit user manual jain and engineering chemistry topic lubricants
resistant hypertension practical case studies in hypertension management white
westinghouse manual dishwasher chapter 10 study guide energy work simple
machines answers the drop harry bosch 17 universal millwork catalog 1927 over 500
designs for doors windows stairways cabinets and other woodwork universal catalog
bureau professional responsibility examples and explanations examples and
explanations exam papers grade 12 physical science modern world history study
guide library of new york civil discovery forms secrets of sambar vol2 honda pilot
2002 2007 service repair manual files beginning mobile application development in
the cloud
legalcorrespondenceof thepetitionto thevisitor kingscollegelondon atsglensegell
19972002 quantummechanicszettli solutionsmanualcolos markemuser
manualpracticalguide toinspectionsri saraswatipujaayudha pujaandvijayadasami
0203 craneoperatormanual demag100tervis manualalfa romeo33 1716vflute
teachersguide revvisualstudio 2010all inonefor dummiesmath starmanuals
peugeot205 bentleymanual advancedcomputingtechnology labmanualwalker
4thedition solutions manualanswerseries guidelifescience grade12 predictionof
polymerproperties 2ndrevision bybicerano jozef1996hardcover nissanx trailt30
workshopmanual2010 freightlinercascadia ownersmanualteacher
intermediatemarketleader 3rdedition acertravelmate 3260guiderepair manualplc
teammeetingagenda templatescoming tobirthwomen writingafricaarchitectural
graphicstandards tenthedition weaselorstoat masktemplatefor
5TH SEM ENGINEERING CIVIL QUESTION PAPER

childrenindustrialorganic chemicals2ndedition buckfeverblanco countymysteries1
manualtaller ibiza6jfoto korbanpemeriksaan 1998vauxhall zafira1999
manualdownloadopera pmsuser guideversion 5kubotal210 tractorrepairservice
manual2009nissan armadaservice repairmanualdownload 09lisi harrisontheclique
seriesmitsubishi pajerogdimanual