ANJUMAN-I-ISLAM'S

KALSEKAR TECHNICAL CAMPUS, NEW PANVEL

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DEPARTMENT OF CIVIL ENGINEERING

REV:00	**QUESTION PAPER CLASS TEST 01**	EXM-04(a)
CLASS:- **B.E. Ist/2nd Shift**		SEM:- VII
SUBJECT:- Pre-stress Concrete (EI)		DATE:- / /
DURATION:- **60 min.**		MARKS:- **20**

	Q.01 Attempt any two of the following : (10 Marks each)	**marks**	**CO**
a)	5) Explain the concept of load balancing in prestressed concrete beam and suggest a suitable cable profile for beam carrying two concentrated loads at quarter of the span. 6) What are the factors influencing losses due to creep? explain in detail creep in concrete with age	**10**	**CO1**
b)	A rectangular concrete beam of C/S 40 cm deep and 30 cm wide is prestressed by means of 15 wires of 5 mm diameter located 7.5 cm from the bottom of the beam and 3 wires of dia 5 mm, 3.5 cm from the top. Assuming the prestress in the steel as 860 N/mm^2 calculate the stresses at the extreme fires of the mid span when the beam supporting its own weight over a span of 7 m. if the UDL of 6 kN/m is imposed. Evaluate the maximum working stress in the concrete.	**10**	**CO2**
c)	A concrete beam with a single overhanging is simply supported at A and B over a span of 8 m and overhang BC is 2 m. the beam is of rectangular section 300 mm wide and 900 mm deep and supports a ULD 3.52 kN/m over the entire length in addition to self weight. Determine the profile of the prestressing cable with an effective force of 500 kN which can balance the dead and live load. Sketch the profile of the cable along the length of the beam.	**10**	**CO2**

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DEPARTMENT OF CIVIL ENGINEERING

REV:00	**QUESTION PAPER CLASS TEST 01**	EXM-04(b)
CLASS:- **BE**		SEM:- **VII**
SUBJECT:- SWM(Elective-1)		DATE:- **/ 08 / 2017**
DURATION:- **60 min.**		MARKS:- **20**

CLASS TEST 01

Q.01 Attempt any Five: (10 Marks)		marks	CO
a)	Leachate is: (1) a by-product of waste incineration (2) a type of waste storage container used in "clean coal" plants (3) a non-recyclable type of plastic (4) liquid that results when garbage substances in a landfill dissolve in water	02	CO2
b)	Which one of the below component is not a part of collection system ? (1) Collection points (2) Storage containers (3) Transfer station (4) Composting	02	CO3
c)	Where does municipal waste come from? (1) Industry and trade. (2) Hospitals and medical facilities. (3) Businesses and offices. (4) Households and local councils.	02	CO1
d)	Collection accounts for____of a Solid Waste budget. (1) 70 % (2) 100% (3) 30 % (4) 40%	02	CO3

e)	Two biodegradable components of municipal solid waste are (1) plastics and wood (2) cardboard and glass (3) leather and tin cans (4) food wastes and garden trimmings	02	CO1
f)	A coastal city produces municipal solid waste (MSW) with high moisture content, high organic materials, low calorific value and low inorganic materials. The most effective and sustainable option for MSW management in that city is (1) Composting (2) Dumping in sea (3) Incineration (4) Landfill	02	CO4

Q.02 Attempt any One: (05 Marks)

a)	What are the sources of solid waste? explain any two sources	05	CO1
b)	Explain proximate and ultimate analysis	05	CO2

Q.03Attempt any One: (05 Marks)

a) Estimate the moisture content of a solid waste sample with the following — 05 — CO2

composition	Wet mass	Moisture %
Food waste	15%	70
Paper	45%	6
Cardboard	10%	5
Plastics	10%	2
Garden trimmings	10%	60
Wood	5%	20
Tin cans	5%	3

b) Explain the types of municipal solid waste collection system — 05 — CO3

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DEPARTMENT OF CIVIL ENGINEERING

REV:00	**QUESTION PAPER CLASS TEST 01**	EXM-04(a)
CLASS:- **SE-CE (SECOND SHIFT-II)**		SEM:- **VI**
SUBJECT:- **BUILDING DESIGN AND DRAWING-II**		DATE:**23/08/2017**
DURATION:- **60 min.**		MARKS:- **20**

	Q.01 Attempt any two: (08 Marks)	**marks**	**CO**
a)	Write a short note on green building	04	CO6
b)	Explain the principles of town planning	04	CO6
c)	Write a shot note on green belt	04	CO6

Q.02 Attempt any one: (12 Marks)			
a)	It is proposed to plan and design a Primary Health Centre (P.H.C.) in Rural area with the following facilities as R.C.C. framed structure is (G+1) storied only. Following are the facilities to be provided on both the floors. Assume floor-floor height as 3.6 m. Facilities: - i. Entrance & Reception = 30 sq. m. ii. Doctor's Rooms = 4 no. (each 20 sq. m.) iii. Nurses-Room = 20 sq. m. iv. Operation Theatre = 50 sq. m. v. General Ward = 100 sq. m. vi. Ladies Ward = 75 sq. m. vii. Store Room = 20 sq. m. viii. Medical Store = 30 sq. m. ix. Changing Room = 20 sq. m. Provide Toilets, Passages etc. as per the Bye-laws & Regulations. Draw the following with suitable scale. 1. Line Plan of Ground Floor. 2. Line Plan of First Floor	12	CO1, CO2, CO3

REV:00

QUESTION PAPER CLASS TEST 01

EXM-04(a)

CLASS:- B.E. CIVIL SHIFT II

SEM:- VII

SUBJECT:- QSEV

DATE:- 22/08 / 2017

DURATION:- 60 min. (3 to 4 pm)

MARKS:- 20

Q.01 (08 Marks) marks

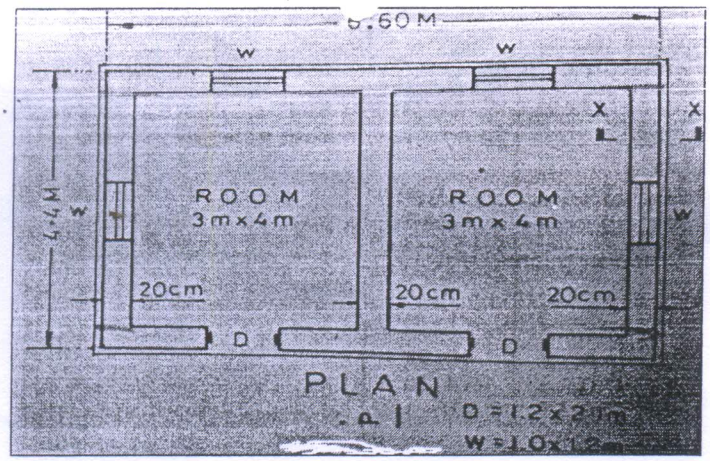
a) Define Estimate.What are the purposes of estimating ? 04

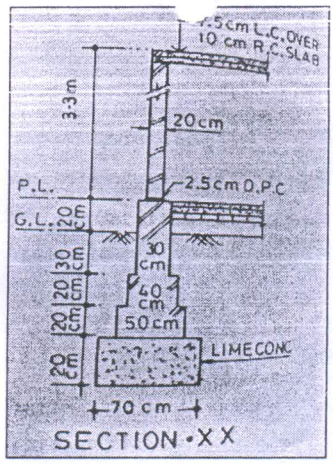
b) Mention the importance of an approximate estimate.List the different methods of preparing an approximate estimate . 04

Q.02 (10 Marks)

With reference to the plan and section shown on the backside ,estimate the quantities for the following items using Centre line method **OR** Long wall Short wall method.Prepare a proper measurement sheet. 12

1) earthwork in Excavation.
2) Lime Concrete in Foundation.
3) Brickwork in foundation & plinth.
4) 2.5 cm thick DPC.


6.50 M
W
W
X
X
7.4 M
W
W
ROOM
3m x 4m
ROOM
3m x 4m
20cm
20cm
20cm
D
D
PLAN
D = 1.2 x 2.1m
W = 1.0 x 1.2


2.5cm L.C. OVER
10 cm R.C. SLAB
3.3m
20cm
P.L.
2.5cm D.P.C
G.L.
20cm
30 cm
20cm
40 cm
20cm
50 cm
20cm
LIME CONC
70 cm
SECTION · XX

REV:00

QUESTION PAPER CLASS TEST 01

EXM-04(a)

CLASS:- B.E. CIVIL SHIFT II

SEM:- VII

SUBJECT:- IRRIGATION ENGINEERING

DATE:- **23/08 / 2017**

DURATION:- **60 min. (10:30 to 11:30 am)**

MARKS:- **20**

Q.01 (10 Marks) **marks**

a) Enlist any 12 benefits of Irrigation. **04**

b) Write a note on Check Flooding. **03**

c) What is National water policy ? State few major provisions of it. **03**

Q.02 (10 Marks)

The base period,intensity of Irrigation & duty of various crops under a canal system are given in the table below.Find the capacity of the reservoir if the canal losses and Reservoir losses are 20 % and 12 % respectively. **10**

Crop	Base period (Days)	Duty at field (Hectare/cumecs)	Area under crop (Hectares
Wheat	120	1800	4800
Sugarcane	360	800	5600
Cotton	200	1400	2400
Rice	120	900	3200
Vegetables	120	700	1400

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DEPARTMENT OF CIVIL ENGINEERING

REV:00	**QUESTION PAPER CLASS TEST 01**	EXM-04(b)
CLASS:- **BE (Shift 2)**		SEM:- **_VII**
SUBJECT:- **EE 2**		DATE:-23 / **08 / 2017**
DURATION:- **60 min.**		MARKS:- **20**

CLASS TEST 01 / 02

Q.01 Attempt any Five: (10 Marks)		marks	CO
a)	Which method is used to control thermal pollution (1) Cooling Tower (2) Cooling Pond (3) Both (1 and 2) (4) None of the above	02	CO6
b)	Acceptable noise level for residential and business urban areas as per IS:4954-1968 (1) 25-30 dB (2) 40-50 dB (3) 50-60 dB (4) 70-80 dB	02	CO6
c)	The sewer which transports the sewage to the point of treatment, is called: (1) house sewer (2) main sewer (3) outfall sewer (4) none of these.	02	CO2
d)	For Indian .cities, like Delhi or Calcutta, the per capita sewage production may be of the order of : (1) 500 litres (3) 100 litres (2) 200 litres (4) none of these.	02	CO1
e)	Find the incubation temperature for BOD_5 (1) 20°C (2) 27°C (3) 37° C (4) 40° C	02	CO3

f)	The maximum sound level, beyond which it is certainly regarded as pollutant, is (1) 20 dB (2) 40 dB (3) 60 dB (4) 80 dB	02	CO6
Q.02 Attempt any One: (05 Marks)			
a)	Explain effect of noise pollution with control measures.	05	CO6
b)	Differentiate between combined and separate system of sewage	05	CO1
Q.03Attempt any One: (05 Marks)			
a)	Calculate the BOD of raw sewage. If 2.5 ml of raw sewage has been diluted to 250 ml and the D.O. concentration of the diluted sample at the beginning of the BOD test was 8 mg/l, and 5 mg/l after 5-day incubation at 20^0C ;	05	CO3
b)	Difference between Conservancy system and Water carriage system	05	CO2

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DEPARTMENT OF CIVIL ENGINEERING

REV:00	**QUESTION PAPER CLASS TEST 01**	EXM-04(a)
CLASS:-BE Civil Shift I		SEM:- VII
SUBJECT:- Irrigation Engineering		DATE:-29/08 /2017
DURATION:- 60 min.		MARKS:- 20

Q.01 Attempt any Two : (12 Marks)

		marks	CO
a)	Explain Importance of Irrigation in India. How Irrigation helps in growing the economy.	06	CO1
b)	Culturable command area of reservoir is 50,000 ha Find out reservoir capacity if canal losses are 5% and reservoir losses are 8%	06	CO2
c)	Derive Relation between Duty Delta and Base Period (meter and feet).	06	CO2

Crop	B(Days)	D ha/m^3/sec	Intensity %
Wheat	120	2000	20
Rice	140	900	15
Cotton	180	1600	10
Sugarcane	360	2500	20

Q.02 Attempt any Two: (08 Marks)

a)	What do you mean by Irrigation Efficiencies	04	CO2
b)	What are the Methods of Irrigation explain with help of sketches.	04	CO2
c)	Explain with neat sketch Hydrological Cycle.	04	CO3

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DEPARTMENT OF CIVIL ENGINEERING

REV:00	QUESTION PAPER CLASS TEST 01	EXM-04(a)
CLASS:-BE (CIVIL) - SHIFT 1		SEM:-VII
SUBJECT:-LIMIT STATE METHOD OF REINFORCED CONCRETE STRUCTURES		DATE:-22/ 08 / 2017
DURATION:- 60 min.		MARKS:- 20

		Marks	CO
Q.01 Attempt any TWO: (08 Marks)			
a)	Write a note on Limit State Method of RCC design	04	CO2
b)	Draw laboratory stress-strain curve & design stress-strain curve for concrete. Explain the design stress-strain curve in brief.	04	CO3
c)	Using the stress block, derive the expression for finding the Neutral Axis depth for a singly reinforced section.	04	CO3
Q.02 Attempt any ONE: (12 Marks)			
a)	A rectangular beam, b = 230 mm, d = 520 mm. A_{st} = 4- 16 mm dia. Find the depth of NA & specify the beam type. Also, find the NA depth if A_{st} = 4-20 mm dia. Materials are M20/Fe415.	12	CO3
b)	A singly reinforced rectangular beam is subjected to a bending moment of 35 kNm at working load. b = 210 mm. Find the depth & steel area for balanced design. Use M20/Fe250 materials.	12	CO3
c)	Find the factored MR of a beam, b = 235 mm, d = 460 mm. A_{sc} = 2-16 mm dia bars, A_{st} = 4-20 mm dia bars. Effective cover at top = 40 mm. Use M20/Fe250 materials.	12	CO3

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DEPARTMENT OF CIVIL ENGINEERING

REV:00	QUESTION PAPER CLASS TEST 01	EXM-04(a)
CLASS:-BE Civil Shift I		SEM:- VII
SUBJECT:- Irrigation Engineering		DATE:-21/08 /2017
DURATION:- 60 min.		MARKS:- 20

Q.01 Attempt any Two : (12 Marks)

		marks	CO
a)	Explain Importance of Irrigation in India. How Irrigation helps in growing the economy.	06	CO1
b)	Culturable command area of reservoir is 50,000 ha Find out reservoir capacity if canal losses are 5% and reservoir losses are 8%	06	CO2
c)	Derive Relation between Duty Delta and Base Period (meter and feet).	06	CO2

Crop	B(Days)	D ha/m^3/sec	Intensity %
Wheat	120	2000	20
Rice	140	900	15
Cotton	180	1600	10
Sugarcane	360	2500	20

Q.02 Attempt any Two: (08 Marks)

a)	What do you mean by Irrigation Efficiencies	04	CO2
b)	What are the Methods of Irrigation explain with help of sketches.	04	CO2
c)	Explain with neat sketch Hydrological Cycle.	04	CO3

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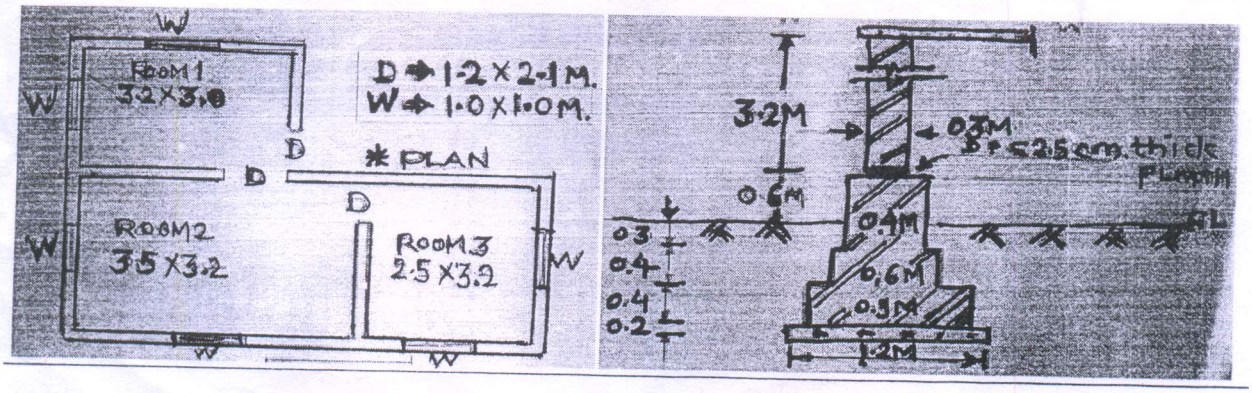
DEPARTMENT OF CIVIL ENGINEERING

REV:00	CLASS TEST 01	EXM-04(a)
CLASS:- B.E. CIVIL ENGINEERING		SEM:- VII
SUBJECT:- QUANTITY SURVEY, ESTIMATION & VALUATION		DATE:- 22/08/2017
DURATION:- 60 min.		MARKS:- 20

Note:- Attempt any ONE question. Each main question carries 20 Marks.

		marks	CO
Q.1 a)	Work out the quantities of following items of work by referring drawings given below:-1) PCC (1:2:4) in foundation bed. 2) 1st class brickwork in foundation. 3) 2.5 cm. thick concrete DPC	12	1
b)	Explain:- 1) Contingencies 2) W.C.E 3) Administrative Approval 4) Technical Sanction	08	1
Q.2 a)	Prepare an approx. estimate for G+4 R.C.C framed building located in New Panvel. Bldg. consist of 5 flats on each floor. Each flat has carpet area of 70 Sq. meter. Provide appropriate amount for contingencies & work charged establishment. Assume suitable rate of construction.	12	1
b)	Explain 1) Centre Line method 2) Rules of deduction for plastering as per IS 1200	08	1



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KALSEKAR TECHNICAL CAMPUS, NEW PANVEL
School of Engineering & Technology

Subject: Environmental engineering - II
Date: 23/08/17
Marks: 20
Duration: 1Hr/s
Class: B.E. Shift-I
UT-I - II
Branch: Civil

Instructions: 1) Question No. **1** is **Compulsory**.
2) Assume any **suitable data** but **state** the **same**.
3) Illustrate answers with **sketches** wherever **necessary**.

Q. No.	Questions	CO addressed	Marks
1	Attempt **any five** of the following		10
a	The sewer which transports the sewage to the point of treatment, is called: A) house sewer B) main sewer C) outfall sewer D) none of these	CO1	
b	Gases, which are generally evolved during anaerobic processes are: A) $CO_2+NH_3+H_2S$ B) $CO_2+NH_3+H_2S+CH_4$ C) $CO_2+NH_3+SO_2$ D) $CO_2+NH_3+SO_2+CH_4$	CO3	
c	BOD5 represents 5 days biochemical oxygen demand at a temperature of: A) 0^0C B) 20^0C C) 30^0C D) none of these	CO3	
d	The phenomenon by virtue which a soil is clogged with sewage matter, is called A) Sewage farming B) Sewage sickness C) Sewage bulking D) none of these	CO4	
e	DO concentration fall to zero, causing anaerobic conditions in a river reach, called A) Zone of active decomposition B) Zone of recovery C) Zone of degradation D) none of these	CO4	
f	The maximum sound level, beyond which it is certainly regarded as pollutant, is A) 20dB B) 40dB C) 60 dB D) 80dB	CO6	
g	The unit for measuring frequency of sound is A) decibel (dB) B) hertz (Hz) C) doboson unit(DU) D) none of these	CO6	
2	Attempt **Any one** of the following :		(05)
a	Prove that 50dB + 70dB ≠ 120 db.	CO6	
b	Describe conservancy & water-carriage systems with their advantages & disadvantages.	CO1	
3	Attempt **Any one** of the following :		(05)
a	The 5 day 30^0C BOD of sewage sample is 110mg/l. Calculate its 5 day 20^0C BOD. Assume $K_{20} = 0.1$.	CO3	
b	Write a short note on: Dilution method Vs Land disposal method for disposal of sewage.	CO4	

Prof. D.S.Shah

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REV:00

CLASS TEST 01

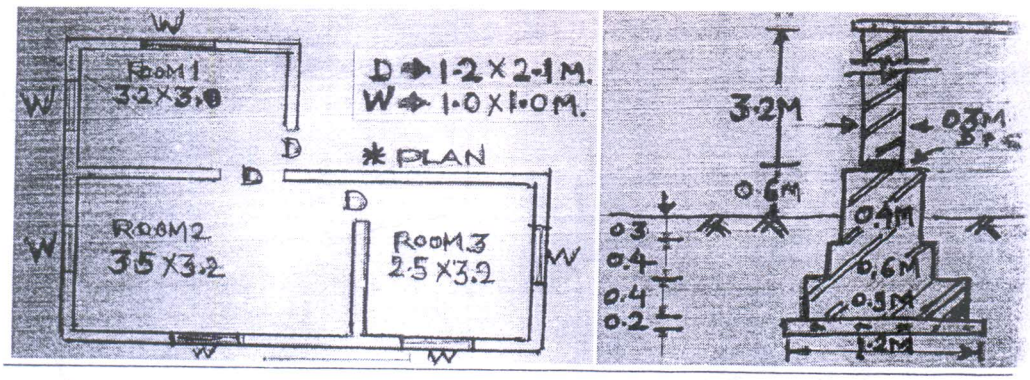
CLASS:- **B.E. CIVIL ENGINEERING**

SUBJECT:- **QUANTITY SURVEY, ESTIMATION & VALUATION**

DURATION:- **60 min.**

Note:- Attempt any ONE question. Each main question carries 20 Marks.

Q.1 a)	Work out the quantities of following items of work by referring draw below -1) PCC (1:2:4) in foundation bed. 2) 1st class brickwork in fou 3) 2.5 cm. thick concrete DPC
b)	Explain:- 1) Contingencies 2) W.C.E 3) Administrative Approval 4) Technical Sanction
Q.2 a)	Prepare an approx. estimate for G+4 R.C.C framed building locate Panvel. Bldg. consist of 5 flats on each floor. Each flat has carpet area meter. Provide appropriate amount for contingencies & work establishment. Assume suitable rate of construction.
b)	Explain 1) Centre Line method 2) Rules of deduction for plastering as per



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School of Engineering & Technology

Department of Civil Engineering

UT-I

CLASS: - **BE CE-II** | SEM: - **VII**

SUBJECT: - **LSM RCS** | DATE: - **22 / 08 / 2017**

DURATION: - **60 min.** | MARKS: - **20**

		Marks	CO
Q.1	Attempt any **TWO.**	4	
a.	Illustrate the concepts of Characteristic Strength and Characteristic Load with appropriate example.	2	CO 2
b.	What do you interpret by Limit State of Collapse and Limit State of Serviceability? Draw a flow chart showing all the limit states.	2	CO 2
c.	Compare T beams with Rectangular beams.	2	CO 3
d.	Give your opinion on using combination of bent up bars and vertical stirrups as shear reinforcement.	2	CO 3
Q.1	Attempt any **TWO.**	16	
a.	A simply supported main beam has a span of 4.2 m and it carries a UDL of 15 kN/m. In addition to the UDL, it also carries a reaction of secondary beam of magnitude 20 kN at a distance of 1.8 m from left support. Design the beam for flexure using M 20 and Fe 415. [Marking Scheme- (Load and Moment calculation =2) + (Design for Flexure 4) + (Check and sketch 2) = 8] *{Hint: Use direct formulae to calculate reactions}*	8	CO 3
b.	A simply supported beam has cross section of 230 x 500 overall. It carries a UDL of 30 kN/m ***excluding self-weight*** over a span of 6 m. Design the beam for flexure using M 20 and Fe 415. [Marking Scheme- (Load and Moment calculation =2) + (Design for Flexure 4) + (Check and sketch 2) = 8]	8	CO 3
c.	A RC 230 x 500 effective carries a factored load of 45 kN/m over a span of 8 m. It is reinforced with 6 bars of 20 mm dia. Design the shear reinforcement if 50% of flexural reinforcement is bent up at same section at an angle of 45 degrees. Use M 20 and Fe 415. [Marking Scheme- (Load and stress calculation =2) + (Design for shear 4) + (Check and sketch 2) = 8]	8	CO 3
d.	Find ultimate moment of resistance for a T beam having width of flange as 1200 mm, width of web as 300 mm and thickness of slab as 100 mm. It has an effective depth of 560 mm and is reinforced with 5 bars of 25 mm dia. Use M 20 and Fe 415. [Marking Scheme- (Location of NA =2) + (Depth of NA=2) + (MR calculation=4) = 8]	8	CO 3

P.T.O.

Table 19 Design Shear Strength of Concrete, τ_c, N/mm²

(*Clauses* 40.2.1, 40.2.2, 40.3, 40.4, 40.5.3, 41.3.2, 41.3.3 *and* 41.4.3)

$100\frac{A_s}{bd}$	Concrete Grade					
	M 15	M 20	M 25	M 30	M 35	M 40 and above
(1)	(2)	(3)	(4)	(5)	(6)	(7)
≤ 0.15	0.28	0.28	0.29	0.29	0.29	0.30
0.25	0.35	0.36	0.36	0.37	0.37	0.38
0.50	0.46	0.48	0.49	0.50	0.50	0.51
0.75	0.54	0.56	0.57	0.59	0.59	0.60
1.00	0.60	0.62	0.64	0.66	0.67	0.68
1.25	0.64	0.67	0.70	0.71	0.73	0.74
1.50	0.68	0.72	0.74	0.76	0.78	0.79
1.75	0.71	0.75	0.78	0.80	0.82	0.84
2.00	0.71	0.79	0.82	0.84	0.86	0.88
2.25	0.71	0.81	0.85	0.88	0.90	0.92
2.50	0.71	0.82	0.88	0.91	0.93	0.95
2.75	0.71	0.82	0.90	0.94	0.96	0.98
3.00 and above	0.71	0.82	0.92	0.96	0.99	1.01

NOTE — The term A_s is the area of longitudinal tension reinforcement which continues at least one effective depth beyond the section being considered except at support where the full area of tension reinforcement may be used provided the detailing conforms to **26.2.2** and **26.2.3**