



Bharatiya Vidya Bhavan's
Sardar Patel College of Engineering

(A Government Aided Autonomous Institute)
Munshi Nagar, Andheri (West), Mumbai – 400058



Re Examination
May 2018

Program: **B.Y. B.Tech.**
Name of the Course: **OCIS/PCT**
Duration : **2 HRS**

Course code:
Semester: **IV**

Question No.	<ul style="list-style-type: none">Attempt any 5 questions out of 7All questions contain equal marks	Maximum Marks	Course Outcome Number	Module No.
Q1. A				
	As a General Secretary you have got complaints about the deteriorating food quality in the canteen and also complaints regarding the hygiene in the canteen on campus. Draft a report in memo form informing the principal about the present condition and giving recommendations for improving the canteen conditions. You are requested to apply effective methods for collecting information. (Use Memo format)	10	02,03	04
Q2. A.	Carefully examine the following case and answer the following questions: Mr. Sohan Lal started in 1980 a music cassette recording company on a very small scale. In a short span of five years his company's sales almost equalled the combined sales of the then three leading music recording companies in India. This could be made possible because of Mr. Lal's business acumen, extraordinary managerial skills, imaginative sales promotion programmes, and above all his ear for good music and lower overhead expenses. Encouraged by the enormous success of his music recording company, Mr. Sohan Lal ventured into other manufacturing activities. Throughout this period Mr. Lal found it difficult to delegate authority and continued making all final decisions on new products, products plans, capital budgeting, advertising, pricing policies, sales plans, hiring of staff, and labour union and other matters. Senior key executives started feeling frustrated due to the Chairman's unwillingness to delegate authority. Some of the newly set up units, which turned out to be non-profitable, were closed down after a few years of their setting up. (a) What could have been the possible reasons of Mr. Lal's reluctance to delegate authority? How you would have convinced Mr. Lal about the utility of delegating authority?	05	01, 02	01
B.	What are the elements of the Front Matter of a formal report? Define each in a single sentence.	05	02, 03,	04

Q.3. A.				
	You find out that many of your team members are spending much time gossiping and are creating a negative atmosphere. You need to speak to them immediately. How would you approach the issue? What etiquette tips will you give to them to maintain a professional work environment at office?	05	04,05	02
B.	Explain the basic elements of Organization. Critically evaluate the role of organizations in economy and society.	05	01,02	03
Q.4. A.				
	Imagine you are the secretary in attendance at the 54 th meeting to be conducted for celebrating the Foundation Day of your institute on January 19, 2017. Draft the notice, Agenda and minutes of the meeting assuming the agenda as follows: Also decide the members who will be attending the meeting and the list of invited members. Agenda 54.01 Confirmation of minutes of the previous meeting 54.02 Matter from previous minutes 54.03 Events to be organized 54.04 Budget for the event 54.05 Mementoes and certificates 54.06 List of invitees 54.07 Date for the next meeting 54.08 Any other matter with the permission of the chairperson.	10	01, 03	03
Q 5..				
A.	Explain the three leadership styles in brief. Describe the measures that can be taken for developing leadership ability of managers.	05	03	06
B.	Your friend has a technical paper presentation along with power point slides in 10 days. What tips will you provide him for an effective presentation	05	04, 05,	05
Q6.				
A.	What is a Resume? What needs to be focused while writing a resume	05	01, 02, 03	07
B.	What are the various Do's and Dont's for an interview?	05	01, 02, 03,	07
Q.7. A.	Draft an application letter along with Resume for the post of a Senior supervisor at a construction site of Lodha Group of companies in Mumbai. Attach a suitable Resume showing about 2 years work experience, and good communication skills with fluency in Marathi language. An additional qualification in environment and water conversation is preferred.	10	01, 02, 03	07



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**Re-Examinations
June 2018**

Max. Marks: 100

Class: T.Y. B.Tech. Semester: V

Name of the Course: *Hydraulic Engineering-I*

Duration: 03 Hours

Program: UG Civil Engineering

Course Code : BTC304

Instructions:

1. Attempt *Any Five* questions
2. All questions carry equal marks
3. Answer to each question to be started on the fresh page
4. Assume suitable data if necessary and mention it clearly.
5. Draw neat diagrams.

Qu. No.		Maximum Marks	Course Outcome Number	Module No.
Q1	(a) The difference in water levels between two tanks connected by three pipes in series is 25 meter. Find the discharge through the pipeline if lengths and diameter of these pipes are 350 m, 175 m, 200 m and 40 cm, 25 cm, 30 cm respectively. Take friction factor (f) for these three pipes as 0.022, 0.025 and 0.03. Assume all losses.	(10)	CO1	1
	(b) Distinguish between slow and rapid closure of a valve in a long pipeline subject to water hammer blow, and derive an expression for celerity of pressure wave in elastic pipe.	(10)	CO1	1
Q2	(a) Water is admitted at the axis of rotation of a two arm lawn sprinkler. The nozzle has a diameter of 1 cm and sprinkler arms have a radius of 25 cm. For the flow rate of 1.50 liters/sec. Find: (i) Speed of rotation of the sprinkler and (ii) Torque to keep the sprinkler stationary.	(10)	CO3	2
	(b) A pipe of 30 cm diameter carrying 300 liters/sec of water has a right angled bend in a horizontal plane. Find the resultant force exerted on the bend if the pressure at inlet and outlet of the bend are 250kN/m^2 and 235kN/m^2 .	(10)	CO3	2
Q3	(a) Show that the efficiency of a free jet striking normally on a series of flat plates mounted on the periphery of a wheel can never exceeds 50%.	(10)	CO3	3
	(b) A jet of water having velocity of 2.50 meter/sec strikes a series of radial curved vanes mounted on a wheel which rotates at 300 rpm. The guide vane angle is 30° with tangent at inlet. The jet leaves the wheel with velocity of 4.0 meter/sec at an angle of 120° to the tangent at wheel outlet. Water flows towards center of wheel. The outer and inner diameters are 1.20 meter and 0.60 meter respectively. Determine: (i) vane angles at inlet and outlet, (ii) work done per unit weight of water, (ii) Efficiency of wheel.	(10)	CO3	3

Q4	(a) Describe limitations of a Pelton wheel type turbine and compare impulse turbine with reaction type turbine.	(10)	CO4	4
	(b) A Pelton wheel has a mean bucket speed of 10 meter/sec with a jet of water flowing at a rate of 0.75 cum/sec. under a head of 35 meter. The bucket deflects the jet through an angle of 165° . Assuming coefficient of velocity as 0.96, Calculate power and overall efficiency of turbine.	(10)	CO4	4
Q5	(a) Explain working of: (<i>any two</i>) (i)Hydraulic intensifier; (ii) Hydraulic crane; (iii)Hydraulic accumulator	(10)	CO3	6
	(b) Explain Draft Tube theory and derive an expression for efficiency of draft tube. Explain terms used	(10)	CO4	4
Q6	(a) Write short notes on (<i>any two</i>): (i) Priming of a centrifugal pump. (ii) Pumps in parallel and series (iii) Iso-efficiency curves	(10)	CO4	5
	(b) The outer diameter of an impellor of a centrifugal pump is 40 cm and outlet width 5 cm. The pump is running at 900 r.p.m. and is working against a total head of 25 meter. The vane angle at outlet is 40 degrees and manometric efficiency is 80%. Determine: (i) velocity of flow at outlet (ii) velocity of water leaving the vane (iii) angle made by the absolute velocity at outlet	(10)	CO4	5
Q7	(a) Derive Hagen-Poiseuille equation for viscous flow through a pipe.	(10)	CO2	7
	(b) Explain with neat sketch Reynold's experiment and discuss significance of the Reynold's experiment in the fluid flow analysis.	(10)	CO2	7



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RE EXAMINATION

JUNE 2018

Program: Civil Engineering

T. Y.B. Tech.

Course code: BTC 303

Name of the Course: Development Engineering

Instructions:

Duration: 3 hr

Maximum Marks: 100

Semester: V

1. Attempt any five questions.
2. Neat diagrams must be drawn wherever necessary.
3. Assume Suitable data if necessary and state it clearly

Question No.		Maximum Marks	Course Outcome Number	Module No.
Q1 (a)	Discuss importance of development Engineering in context of village development	6	CO1	6
(b)	State the hurdles for rural development and how to overcome them with present guidelines provided by Central or State government	10	CO1	7
(c)	State the objectives of Unnat Maharashtra Abhiyan	4	CO1	5
Q2 (a)	Discuss the elements of Smart city planning	8	CO2	3
(b)	Explain importance of green buildings along with GRIHA norms	8	CO1	2
(c)	Discuss major challenges ahead of Urban development	4	CO1	5
Q3 (a)	Explain the concept of sustainable communities along with examples.	8	CO1	2
(b)	Discuss use of GIS for Smart Village planning	6	CO2	3
(c)	Highlight the importance of People's participation for Rural development	6	CO2	4
Q4 (a)	Discuss key elements in the planning and development of rural areas.	8	CO2	4
(b)	Discuss socioeconomic development in the context of MODEL VILLAGE	6	CO2	1
(c)	Brief about sustainable communities in the context of Sansad Adarsh Gram Yojana/Adarsh Gram Yojana	6	CO1	4
Q5 (a)	Discuss the various schemes floated by government for Rural development	7	CO1	5

(b)	Explain how Geoinformatics is useful for Planning and development of rural areas.	7	CO2	5
(c)	Discuss the importance of waste management, water management, energy management in the context of Urban Area.	6	CO1	5
Q6 (a)	Explain how data extraction in geoinformatics can be done and how it is used for decision making	8	CO2	5
(b)	Explain slum redevelopment along with provision made by Maharashtra Government	8	CO1	3
(c)	Explain AREA BASED DEVELOPMENT MODEL	4	CO1	3
Q7 (a)	Describe the process in the preparation of master plan for a Town	8	CO1	3
(b)	Discuss the issues and challenges in public transport, irrigation, sanitation and cooking energy in Urban areas	8	CO1	4
(c)	Explain the use of geoinformatics in development engineering	4	CO2	5



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End Semester Exam
June 2018

Max. Marks: 100

Class: T.Y. B.Tech.

Semester: V

Name of the Course: **Structural Analysis-II**

Duration: 3 Hours

Program: B.Tech. in Civil Engineering

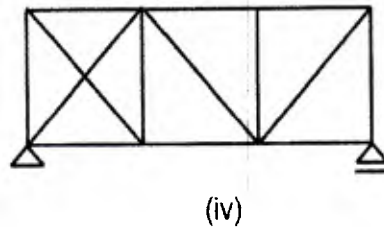
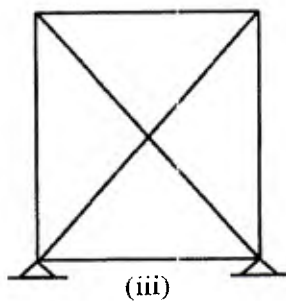
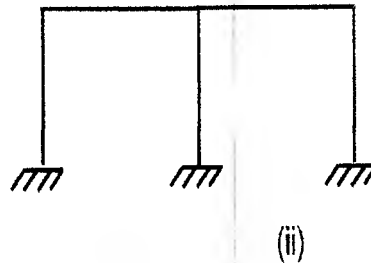
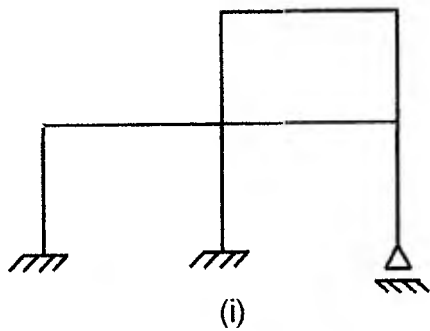
Course Code : **BTC 302**

Instructions:

- Attempt any FIVE questions out of SEVEN questions.
- Answers to all sub questions should be grouped together.
- Figures to the right indicate full marks.
- Assume suitable data if necessary and state the same clearly.

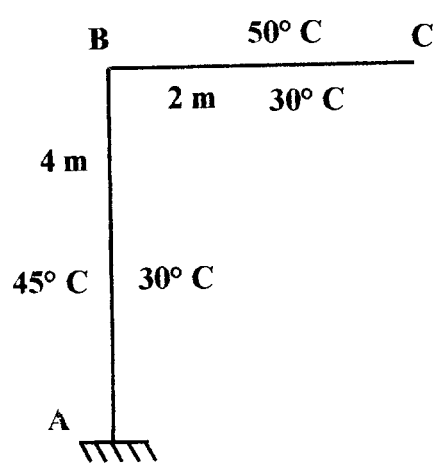
Question No	Max Marks	Course Outcome Number	Module No.
Q.1 (a)	(10)	1	2

Determine the static and kinematic indeterminacy of the structures shown in figures below.



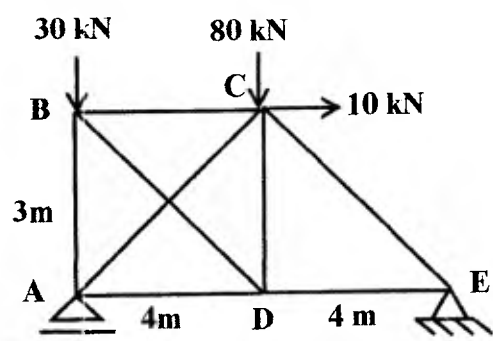
- Q.1 (b) For the frame shown in figure calculate the vertical deflection of C (10)

1 1



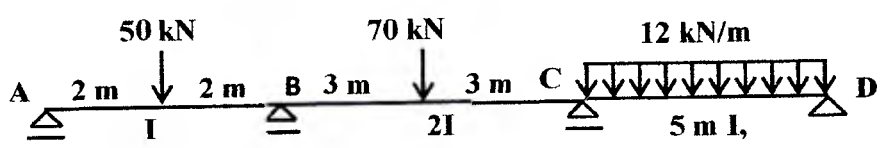
- Q.2 (a) Find the force in the redundant member AC of the truss loaded as shown in figure below by flexibility (compatibility) method. (Take force in member AC as the redundant force.) Assume AE to be same for all the members. (10)

2 3

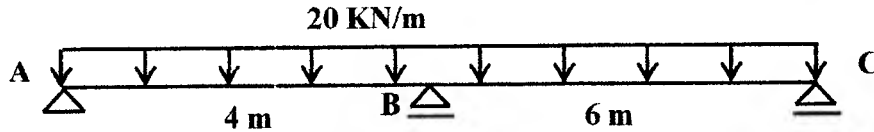


- Q.2 (b) Analyse the continuous beam shown in figure using three moment theorem. (10)

2 3

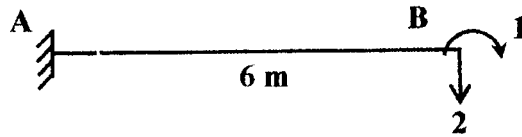


- Q.2(a) Find the reaction at A in the beam shown in figure using the theorem of least work. Use vertical reaction at A as the redundant force. (10) 2 4

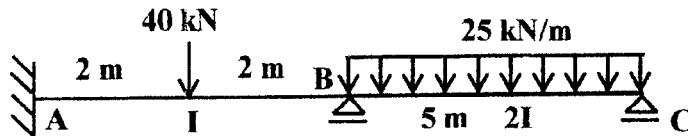


- Q.3 (b) A two hinged semicircular arch of span 50 m (i.e. of radius 25 m) carries an udl of 20 kN/m on the left half span. Determine the horizontal thrust in the arch. (10) 2 4

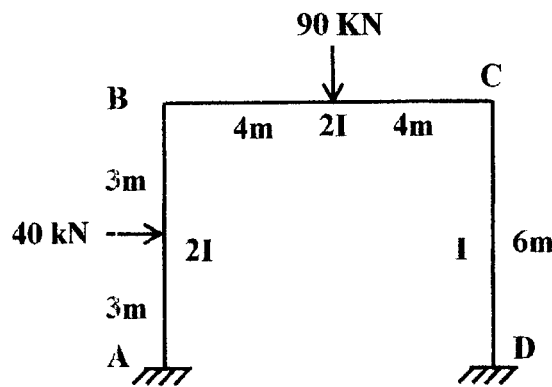
- Q.4 (a) Calculate the flexibility coefficients for the frame shown in figure w.r. to the coordinates indicated in figure. (08) 2 3



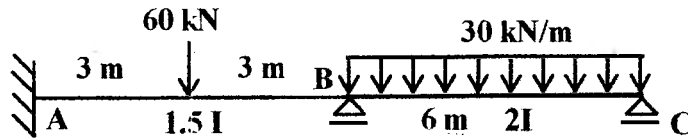
- Q.4 (b) Analyse the beam shown in figure by slope deflection method. Draw BMD. (12) 3 5



- Q.5 Analyse the frame shown in figure by moment distribution method. Draw BMD. (20) 3 5



Q.6 (a) Analyse the beam shown in figure by stiffness method. (12) 3 6



Q.6 (b) Name any two methods of (a) Force method (b) Displacement method. (04) 2,3 3,4,5,6

Q.6 (c) Explain the advantages and disadvantages of indeterminate structures over determinate structures. (04) 2,3 2,3,4,5,6

Q.7 (a) Find the shape factor for the unsymmetrical I section with the following data. (10) 4 7

Top flange - width = 400 mm, thickness = 25 mm
 Bottom flange - width = 300 mm, thickness = 20 mm
 Depth of web = 300 mm, thickness of web = 20 mm.

Q.7 (b) A continuous beam is subjected to working loads as shown in figure below. If $M_p = 40$ kN-m, calculate the (true) load factor for the beam. (10) 4 7

