MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)

B.Tech. II Semester End Examinations

Model Question Paper

Course Title: English   **Course Code: EN201HS**

Time   : 3 hours   Max. Marks   : 70

Answer any FIVE Questions

(Each question carries 14 marks)

Q. No.	Stem of the question	M	L	CO	PO
	Unit-I				
1. a)	Examine the humour in 'Toasted English', support your answer with examples.	7	2	1	
b)	Discuss the usage of the following punctuation marks with examples: i. Comma ii. Apostrophe iii. Colon iv. Semicolon v. Hyphen vi. En dash vii. Em dash	7	1	1	
	Unit-II				
2. a)	How did the Gandhara style emerge and what are its characteristic features?	7	2	2	
b)	Describe your favorite holiday destination.	7	4	2	
	Unit-III				
3. a)	Examine the different stages in the manufacturing of Blue jeans.	7		3	
b)	You had purchased a laptop from an e-commerce website. However, you received a damaged one. The screen had a crack and the battery was missing. Write a letter of complaint to the website asking for a replacement or a refund.	7	4	3	
	Unit-IV				
4. a)	Is the poem 'The Road not taken' clear on whether or not taking the path less trodden, a good choice or a bad one? Analyse it.	7	2	4	
b)	Write an essay in about 200-250 words on the topic given below. 'Do Social networking sites divide or bring people together'	7	6	4	
	Unit-V				
5. a)	Why should refined grains, sugary drinks, sweets and salt be eaten very sparingly?	7	1	5	

b)	Plato is the earliest important educational thinker, and education is an essential element in "The Republic" (his most important work on philosophy and political theory, written around 360 B.C.). In it, he advocates some rather extreme methods: removing children from their mothers' care and raising them as wards of the state, and differentiating children suitable to the various castes, the highest receiving the most education, so that they could act as guardians of the city and care for the less able. He believed that education should be holistic, including facts, skills, physical discipline, music and art. Plato believed that talent and intelligence is not distributed genetically and thus is be found in children born to all classes, although his proposed system of selective public education for an educated minority of the population does not really follow a democratic model.	7	4	5

Aristotle considered human nature, habit and reason to be equally important forces to be cultivated in education, the ultimate aim of which should be to produce good and virtuous citizens. He proposed that teachers lead their students systematically, and that repetition be used as a key tool to develop good habits, unlike Socrates' emphasis on questioning his listeners to bring out their own ideas. He emphasized the balancing of the theoretical and practical aspects of subjects taught, among which he explicitly mentions reading, writing, mathematics, music, physical education, literature, history, and a wide range of sciences, as well as play, which he also considered important.

During the Medieval period, the idea of Perennialism was first formulated by St. Thomas Aquinas in his work "De Magistro". Perennialism holds that one should teach those things deemed to be of everlasting importance to all people everywhere, namely principles and reasoning, not just facts (which are apt to change over time), and that one should teach first about people, not machines or techniques. It was originally religious in nature, and it was only much later that a theory of secular perennialism developed.

1. **What is the difference between the approaches of Socrates and Aristotle?**
2. **Who is the author of 'The Republic'?**
3. **According to Plato what is the ultimate aim of Education?**
4. **What is Perennialism?**
5. **Were Plato's beliefs democratic?**
    a. Unit-I   b. Unit-II

6. a)	Write a cause-effect paragraph on the following.				
	Global warming is a serious issue the world is facing. Most of the causes leading to Global warming are human made.	5	5	1

b)	Fill in the blanks with the right choice of word. i. Neither the actor nor his assistant _____ attending the party. (is/are) ii. Our team _____ working overtime to meet the deadline. (is/are) iii. The students _____ know the reason for the postponement of exams.(don't /doesn't) iv. Each of the players _____ been rewarded for participation. (have/has) v. Idly and chutney _____ his favorite breakfast. (is/are) vi. The jury _____ in their opinions. (differ/differs) vii. Either the teacher or the students _____ to go to the principal.(has/have) viii. The committee will announce _____ decision tomorrow. (its/their) ix. This pair of jeans _____ to his brother. (belong/belongs)	9	2	2

a. Unit-III   b. Unit-IV

7. a)	List out the evolution of Blue jeans.	7	1	3

b)	Identify and delete the redundant word/phrase from the following sentences.
	        i. We should plan ahead for the summer holidays.
	        ii. In the past there was a consensus of opinion that the earth was flat.
	        iii. This phone is a better choice because it has a RAM memory of 4GB.
	Write what these abbreviations/acronyms stand for.
	        i. BBC
	        ii. Sci-fi
	        iii. DNA
	        iv. NASA
		7	2	4

a. Unit-V   b. Unit-I/II/III/IV/V

8. a)	Examine the two main factors that change your body weight?	7	3	5
b)	Describe the different sections of a Report.	7	3	5

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome

Model Question Paper

Course Title: Mathematics – II   **Course Code: MA202BS**
Time   : 3 hours   **Max. Marks : 70**

Answer any FIVE Questions
(Each question carries 14 marks)

Q. No.	Stem of the question	M	L	CO	PO
	Unit-I				
1. a)	Find the solution of the differential equation $(1 + xy)x\,dy + (1 - xy)y\,dy = 0$.	7	1	1	1
b)	A body kept in air with temperature $25°\,C$ cools from $140°\,C$ to $80°\,C$ in 20 minutes. Find when the body cools down to $35°\,C$.	7	3	1	2
	Unit-II				
2. a)	Find the general solution of the differential equation $(D^2 + 1)y = \sin x \sin 2x + e^x x^2$.	7	1	2	1
b)	Apply the method of variation of parameters to solve $(D^2 - 2D)y = e^x \sin x$.	7	3	2	2
	Unit-III				
3. a)	By using the transformation $x + y = u, y = uv$ show that $\int_0^1 \int_0^{1-x} e^{\frac{y}{(x+y)}}\,dy\,dx = \frac{1}{2}(e - 1)$.	8	2	3	2
b)	Find the value of the integral $\int_1^e \int_1^{\log y} \int_1^{e^x} \log z\,dz\,dx\,dy$.	6	1	3	1
	Unit-IV				
4. a)	Find the directional derivative of $f = xy + yz + zx$ in the direction of vector $\bar{\imath} + 2\bar{\jmath} + 2\bar{k}$ at the point (1, 2, 0).	8	1	4	1
b)	Find $div\,\bar{f}$ and $curl\,\bar{f}$ when $\bar{f} = gard(x^3 + y^3 + z^3 - 3xyz)$.	6	1	4	1
	Unit-V				
5. a)	Compute the line integral $\int(y^2 dx - x^2 dy)$ round the triangle whose vertices are (1, 0), (0, 1), (-1, 0) in the xy- plane.	7	3	5	1
b)	Using Stoke's theorem evaluate the integral $\int_c \bar{F}\,.\,d\bar{r}$ where $\bar{F} = 2y^2\bar{\imath} + 3x^2\bar{\jmath} - (2x + z)\bar{k}$ and C is the boundary of triangle whose vertices are (0, 0, 0), (2, 0, 0), (2, 2,0).	7	3	5	2
	a. Unit-I b. Unit-II				
6. a)	Find the solution of the differential equation $y + px = x^4 p^2$.	7	1	1	1
b)	Solve of the differential equation $(x^2 D^2 - 4xD + 6)y = (\log x)^2$.	7	3	2	1
	a. Unit-III b. Unit-IV				
7. a)	Find the value of the integral by changing the order of integration $\int_0^{4a} \int_{\frac{x^2}{4a}}^{2\sqrt{ax}} dy\,dx$.	7	1	3	1
b)	Find the angle between the surfaces $x^2 + y^2 + z^2 = 9$ and $z = x^2 + y^2 - 3$ at the point (2, -1, 2).	7	1	4	1
	a. Unit-V b. Unit-I/II/III/IV/V				
8. a)	Verify divergence theorem for $\bar{F} = x^2\bar{\imath} + y^2\bar{\jmath} + z^2\bar{k}$ over the surface S of the solid cut off by the plane $x + y + z = a$ in the first octant.	10	6	5	2
b)	Find the solution of the differential equation $\frac{dy}{dx} - \frac{2y}{x+1} = (x + 1)^3$.	4	1	1	1

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MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)

B.Tech. II Semester End Examinations
Model Question Paper

Course Title: APPLIED PHYSICS   **Course Code: PH202BS**

Time   : 3 hours   Max. Marks : 70

Answer any FIVE Questions
(Each question carries 14 marks)

Q. No.	Stem of the question	M	L	CO	PO
	Unit-I				
1. a)	Derive the Schrödinger time independent wave equation and give physical significance of wave function.	4	1	1	1
b)	Calculate the ground state energy of particle trapped into a box of width 0.2nm.	10	2	1	2
	Unit-II				
2. a)	What is Zener diode? Explain V-I characteristics of Zener diode.	6	1	2	1
b)	Explain Hall effect and obtain expression for Hall voltage in terms of Hall coefficient. The Hall coefficient of certain silicon specimen was found to be -6.25×10^{-4} m^3C^{-1}. Determine the nature of the semiconductor, If the conductivity was found to be 200 $m^{-1}\Omega^{-1}$. Calculate the density and mobility of the charge carrier.	8	3	2	2
	Unit-III				
3. a)	Distinguish direct and indirect band gap semiconductors.	4	1	3	1
b)	What is a light emitting diode (LED) and explain construction and working of LED with its applications.	10	2	3	1
	Unit-IV				
4. a)	Explain construction and working of Ruby laser and list out few applications.	8	1	4	1
b)	Derive the expression for acceptance angle of an optical fiber.	6	2	4	1
	Unit-V				
5. a)	Define polarizability and polarization vector. Derive Clausius-Mossotti equation.	10	1	5	1
b)	A solid elemental dielectric with 3×10^{28} atoms/m^3 shows an electronic polarizaility of 10^{-40} F-m^2. Assuming the internal electric field to be a Lorentz field, calculate the dielectric constant of the material.	4	2	5	2
	a. Unit-I b. Unit-II				
6. a)	Explain construction and working of Davisson and Germer's experiment.	10	1	1	1
b)	Calculate the wavelength associated with an electron which is moving under a potential field of 100KV.	4	3	2	2
	a. Unit-III b. Unit-IV				
7. a)	Define radiative and non-radiative recombination mechanisms. Explain construction and working of Avalanche photo diode.	10	1	3	1
b)	The numerical aperture of an optical fiber is 0.39. If the difference in the refractive indices of the material of its core and the cladding is 0.04. Calculate the refractive index of material of the core.	4	3	4	2
	a. Unit-V b. Unit-I/II/III/IV/V				
8. a)	What is ferromagnetism? Explain the hysteresis curve on the basis of domains.	8	1	5	1
b)	Define photo electric effect and explain the various effects associated with it.	6	2	3	2

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome

Model Question Paper

Course Title: Chemistry   **Course Code: CH201BS**

Time   : 3 hours   Max. Marks : 70

Answer any FIVE Questions

(Each question carries 14 marks)

Q. No.	Stem of the question	M	L	CO	PO
	Unit-I				
1. a)	Explain the Ion-Exchange method for softening of hard water with a neat diagram.	7	1	1	1
b)	What are the various steps involved in the treatment of potable water? Explain disinfection by chlorination.	7	2	1	6
	Unit-II				
2. a)	Write the construction and functioning of Lead Acid battery. Give its applications.	7	1	2	1
b)	What are Metallic coatings? Explain the process of Galvanization.	7	2	2	3
	Unit-III				
3. a)	A gaseous fuel has the following composition by volume H_2 =20%, CH_4 = 6%, CO= 22%, CO_2=4%, O_2=4%. Calculate the volume of air required if 20% excess air is supplied per $100m^3$ of fuel.	4	4	3	2
b)	Write an account on Proximate analysis of coal. Give its significance.	10	1	3	1
	Unit-IV				
4. a)	What are Biodegradable Polymers? Give the preparation, properties and applications of (i) Polylactic acid (ii) Polyvinyl alcohol.	7	2	4	1
b)	What are refractories? Explain Refractoriness and Refractoriness under load (RUL) test.	7	2	4	2
	Unit-V				
5. a)	Give an account of various Fundamental vibrations in IR Spectroscopy	7	1	5	1
b)	Define chemical shift. Explain the NMR Splitting pattern of (i) Ethyl alcohol (ii) 2-propanol.	7	4	5	3
	a. Unit-I b. Unit-II				
6. a)	What are scales and sludge? Explain the causes and effects of scales and sludge in boilers.	7	2	1	1
b)	What are fuel cells? Give the construction and working of H_2-O_2 fuel cell. Mention its advantages over batteries.	7	3	2	7
	a. Unit-III b. Unit-IV				
7. a)	Describe the Refining and Fractional distillation of petroleum.	7	1	3	1
b)	What are Nanomaterials? Explain the preparation of nanomaterials by Sol-gel method.	7	2	4	3
	a. Unit-V b. Unit-I/II/III/IV/V				
8. a)	Discuss the types of electronic transitions possible in UV - visible spectroscopy.	7	1	5	1
b)	What are reference electrodes? How do you determine pH of a solution using glass electrodes?	7	3	2	2

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MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)

B.Tech. II Semester End Examinations

Model Question Paper

Course Title: Programming for Problem Solving   **Course Code: CE201ES**

Time   : 3 hours   Max. Marks   : 70

Answer any FIVE Questions

(Each question carries 14 marks)

Q. No.	Stem of the question	M	L	CO	PO
	Unit-I				
1. a)	Explain the various operators used in c programming and exemplify the use of ternary operator.	7	2	1	1
b)	Write a C program to check whether the given number is Palindrome or not.	7	2	1	2
	Unit-II				
2. a)	Explain the following with an example: (i) Two Dimensional Arrays (ii) Multidimensional Arrays	7	1	2	1
b)	Demonstrate chain of pointers.	7	2	2	2
	Unit-III				
3. a)	Build a C program to concatenate two strings without using built-in functions.	7	4	3	2
b)	What is nested structure? Write a C Program to illustrate the concept of nested structure.	7	3	3	1
	Unit-IV				
4. a)	Demonstrate passing strings to functions with an example.	7	2	3	1
b)	Differentiate call by value and call by reference with an example.	7	3	4	1
	Unit-V				
5. a)	Illustrate Command Line Arguments with an example.	7	3	5	1
b)	Explain various random-access function in files.	7	2	5	1
	a. Unit-I b. Unit-II				
6. a)	Describe various conditional and unconditional statements used in C with syntax and example.	7	2	1	1
b)	Write a C program to multiply two matrices.	7	1	2	1
	a. Unit-III b. Unit-IV				
7. a)	What is a structure and state how the members of a structure are accessed with example? Write the major differences between arrays and structures.	7	2	3	1
b)	Write a C program to generate Fibonacci series using recursion.	7	2	4	2
	a. Unit-V b. Unit-I/II/III/IV/V				
8. a)	List out the any five preprocessor directives and explain them with an example.	7	3	5	1
b)	Explain dynamic memory allocation functions with suitable example.	7	2	4	1

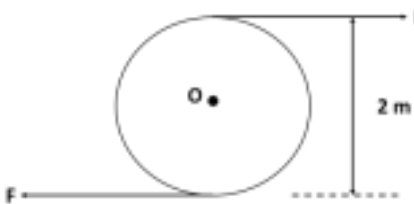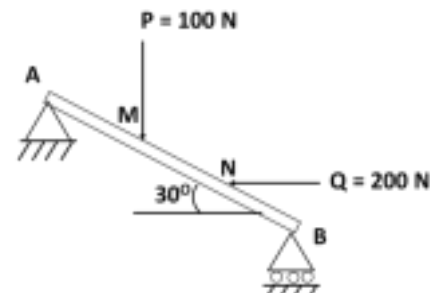M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome
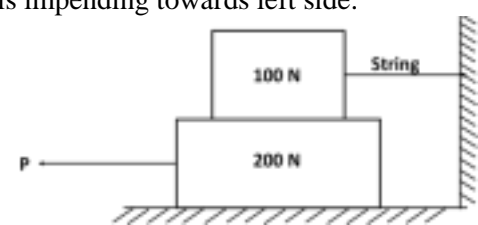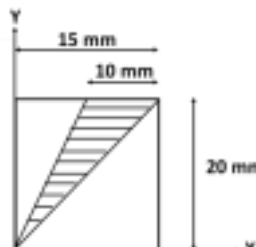
Model Question Paper

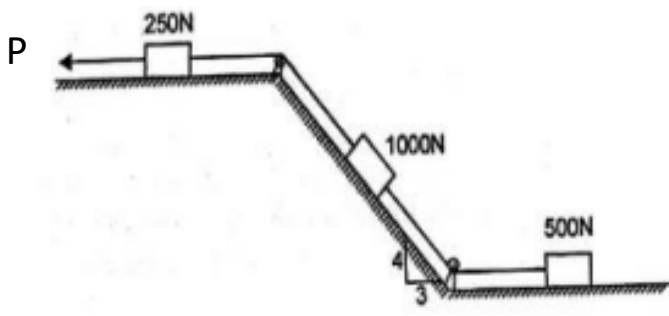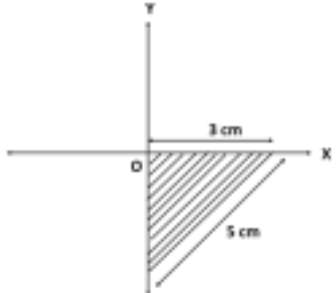**Course Title: Engineering Mechanics**   **Course Code: ME202ES**

Time   : 3 hours   Max. Marks   : 70

Answer any FIVE Questions

(Each question carries 14 marks)

Q. No.	Stem of the question	M	L	CO	PO
	Unit-I				
1. a)	If clockwise Moment about point O is 400 N-m, then find the value of F?	6	5	1	1
b)	a) Determine all the reactions in the following beam system. Take AM=MN=NB= 3m.	8	5	1	1
	Unit-II				
2. a)	Explain the laws of Friction	5	2	2	12
b)	If μ= 0.3 for all pair of surfaces, what should be the value of P, such that 200 N block is impending towards left side.	9	1	2	1
	Unit-III				
3. a)	Using first principal, derive MI of a triangle with base b and height h about its centroidal axis	6	1	3	2
b)	b) Determine the centroid of the shaded region.	8	5	3	1
	Unit-IV				
4. a)	State and explain D' Alembert's Principle with suitable example.	6	2	4	12

			M	L	CO	PO
b)	Determine the constant force P that will give the system of bodies shown in Figure velocity of 3m/sec after moving 4.5m from rest. Coefficient of friction between the blocks and the plane is 0.3. Pulleys are smooth.		8	5	4	1

Unit-V

			M	L	CO	PO
5. a)	Explain the following (i) Impulse – Momentum equation (ii) Conservation of Momentum (iii) Coefficient of restitution (iv) Oblique Impact		8	2	5	12
b)	A 600mm diameter flywheel is brought uniformly from rest to a speed of 350 rpm in 20 seconds. Determine the velocity and acceleration of a point on the rim 2 seconds after starting from rest.		6	5	5	1

a. Unit-I   b. Unit-II

			M	L	CO	PO
6. a)	Two forces 15 N and 12 N are acting at a point. The angle between the forces is 60°. Find the magnitude and direction of the resultant		6	1	1	1
b)	A screw jack raises a load of 40 kN. The screw is square threaded having three threads per 20 mm length and 40 mm in diameter. Find the force required at the end of a lever 400 mm long measured from the axis of the screw, if the coefficient of friction between screw and nut is 0.12.		8	1	2	2

a. Unit-III   b. Unit-IV

			M	L	CO	PO
7. a)	State and explain Pappu's theorem I and II with suitable examples.		6	2	3	2
b)	A vehicle accelerates a glider of 125 kg mass from rest to a speed of 50 km/hr. Make calculations for the work done on the glider by the vehicle. What change would occur in the kinetic energy of the glider if subsequently its velocity reduces to 20 km/hr on the application of brakes?		8	1	4	1

a. Unit-V   b. Unit-I/II/III/IV/V

			M	L	CO	PO
8. a)	State and explain Work – Energy Principle, explain with suitable example how it can be used to solve dynamics problems.		6	2	5	12
b)	Determine the MI of shaded region about X and Y axis.		8	5	4	1

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome

MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)

B.Tech. II Semester End Examinations

Model Question Paper

Course Title: Basic Electrical Engineering   **Course Code: EE201ES**

Time   : 3 hours   Max. Marks : 70

Answer any FIVE Questions

(Each question carries 14 marks)

Q. No.	Stem of the question	M	L	CO	PO
	Unit-I				
1. a)	For the circuit shown in Fig. Calculate the current in the 6Ω resistance by using Norton's theorem	7	1	1	2
b)	Find the resistance between A&B. All resistor values are in Ohms	7	3	1	2
	Unit-II				
2. a)	A 1500 nF capacitor is connected in parallel with a 16 Ω resistor across a 10 V, 10 kHz supply. Calculate i. current in each branch, ii. supply current, iii. circuit phase angle, iv. circuit impedance, v. power consumed, vi. apparent power, and vii. circuit power factor. Sketch the phasor diagram.	7	3	2	2
b)	Derive the relationship between line current and phase current in a 3-phase star connected balanced load.	7	3	2	2
	Unit-III				
3. a)	Explain the phasor diagram of a transformer considering the impedance of primary and secondary side for a lagging load.	7	1	3	1
b)	A 25 KVA, 2000/200 V Transformer has constant loss i.e. iron loss of 350W and full load copper loss called the variable loss of 400 W. Calculate the efficiency of the Transformer at full load and at half full load 0.8 power factor lagging.	7	3	3	2
	Unit-IV				
4. a)	Explain the production of rotating magnetic field in a 3-phase Induction motor.	7	1	3	2

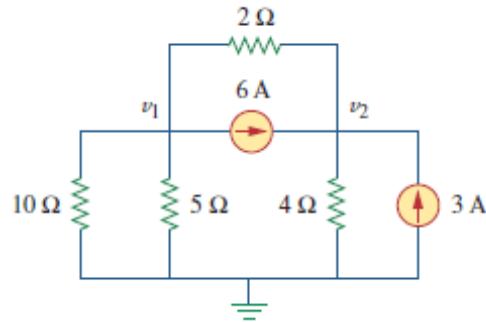|			M	L	CO	PO
b)	A DC generator has a generated e.m.f. of 210 V when running at 700 rpm and the flux per pole is 120 mWb. Determine the generated e.m.f. (a) at 1050 rpm, assuming the flux remains constant, (b) if the flux is reduced by one-sixth at constant speed, and (c) at a speed of 1155 rpm and a flux of 132 mWb.		7	2	3	1

Unit-V

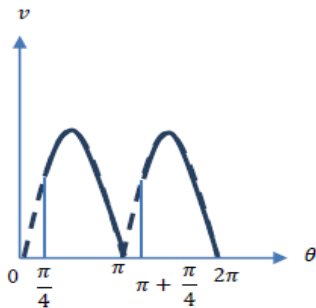|		M	L	CO	PO
5. a)	What are the types of cables used in electrical system? Explain	7	1	4	1
b)	A daily load of an industrial concern is as follows: 100 kW for 9 hours, 125 kW for 6 hours 50 kW for 7 hours and 5 kW for 2 hours. The cost of energy is Rs.1.30per kWh. Determine the energy bill for July month.	7	2	4	2

a. Unit-I   b. Unit-II

		M	L	CO	PO
6. a)	Obtain v_1 and v_2 in the circuit shown below	7	1	1	2

		M	L	CO	PO
b)	The full rectified sine wave shown has a delay angle of $\frac{\pi}{4}$ radians. Find the average and rms value and form factor.	7	5	2	2

a. Unit-III   b. Unit-IV

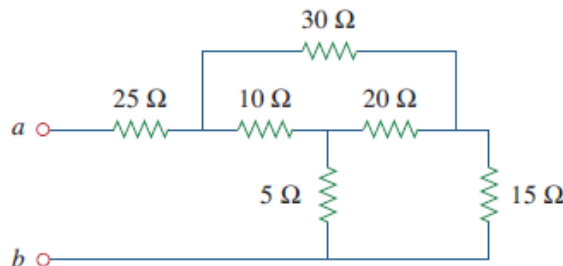|		M	L	CO	PO
7. a)	Derive the EMF equation of transformer and hence define the terms and deduce the expressions for voltage ratio and turns ratio	7	1	3	1
b)	Explain speed control methods of DC shunt motor with neat circuit diagram	7	1	3	1

a. Unit-V   b. Unit-I/II/III/IV/V

		M	L	CO	PO
8. a)	What are the causes of low power factor? Explain its disadvantages.	7	1	4	1
b)	Obtain the equivalent resistance at the terminals a-b for the network shown below	7	3	1	2

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MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)

B.Tech. II Semester End Examinations

Model Question Paper

Course Title: Engineering Graphics   **Course Code: ME201ES**

Time   : 3 hours   Max. Marks : 70

(Common to CSE, IT, CSBS, CSE (AI&ML) & CSE (DS))
Answer any FIVE Questions
(Each question carries 14 marks)

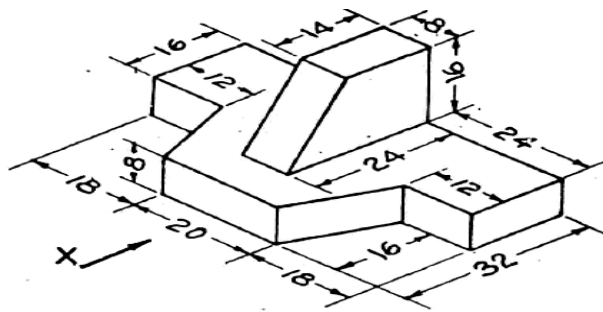| Q. No.	Stem of the question	M	L	CO	PO
	Unit-I				
1. a)	Construct a Pentagon of side 35 mm using General method.	4	1	1	1
b)	Construct a hyperbola when the distance of the focus from the directrix is equal to 60 mm and eccentricity is 3/2	10	2	1	1
	Unit-II				
2. a)	Draw the projections of point E, 30 mm above the H.P and 15 mm in front of V.P.	4	1	2	1
b)	A line AB, 70 mm long is inclined at 40^0 to H.P and 30^0 to V.P. It's one end A is 10 mm above H.P and 20 mm in front of V.P. Draw its projections.	10	2	2	2
	Unit-III				
3. a)	The surface of the pentagonal plane is parallel to and 10 mm above the H.P and its edge is parallel to and 20 mm in front of V.P. Draw its projections.	4	1	3	1
b)	Draw the projections of a regular hexagonal prism, side of base 30 mm and axis 65 mm long resting with its base on H.P such that one of its rectangular faces is parallel to and 10 mm in front of V.P.	10	2	3	10
	Unit-IV				
4. a)	Draw the development of the lateral surface of Hexagonal pyramid, side 30 mm and its axis 60 mm.	4	2	4	1
b)	A vertical cylinder of 70 mm diameter is completely penetrated by another cylinder of 40 mm diameter, their axes bisecting each other at right angles. Draw their projections showing curves of penetration, assuming the axis of the penetrating cylinder parallel to the V.P.	10	3	4	10
	Unit-V				
5. a)	Draw the isometric view of pentagonal plane, side 35 mm.	4	2	5	10
b)	Draw the front view, top view and right side view for the part shown in fig.1. All dimensions are in mm.	10	4	5	10

Fig. 1

			M	L	CO	PO
		a. Unit-I b. Unit-II				
6.	a)	A circle of 60 mm diameter rolls along a line for one revolution clock wise. Draw the locus of a point on the curve which is in contact with the line. Also, draw a tangent and normal to the curve, at a point 40 mm from the directing line.	7	2	1	2
	b)	A point P is 20 mm above H.P and 35 mm in front of V.P. Another point Q is 40 mm behind the V.P and 50 mm below the H.P. Draw projections of P and Q keeping the distance between their projectors equal to 65 mm. Draw straight lines joining (i) their top views and (ii) their front views.	7	2	2	10
		a. Unit-III b. Unit-IV				
7.	a)	Draw the projections of a right circular cone of base 50 mm diameter and axis 75 mm long, when resting with its base on H.P and axis 35 mm in front of V.P.	7	2	3	1
	b)	Draw the development of a pentagonal Prism of side of base 30 mm and axis 65 mm long, is resting on its base on H.P with an edge of the base parallel to V.P.	7	2	4	2
		a. Unit-V b. Unit-I/II/III/IV/V				
8.	a)	State editing commands used in AUTOCAD.	4	1	5	3
	b)	The front view and top view of a staircase steps are shown in fig.2. All dimensions are in mm. Draw its isometric view.	10	5	5	10

Fig. 2

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome

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MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)

B.Tech. II Semester End Examinations

Model Question Paper

Course Title: Environmental Science　　　　　　　　**Course Code: MC201ESC**

Time　　　: 3 hours　　　　　　　　　　　　　　　　Max. Marks　: 70

Answer any FIVE Questions

(Each question carries 14 marks)

Q. No.	Stem of the question	M	L	CO	PO
	Unit-I				
1. a)	Give an account of upstream and downstream problems of big dams.	7	2	1	2
b)	What is soil erosion? Describe the types, effects and control of soil erosion.	7	3	1	1
	Unit-II				
2. a)	Describe the various values of biodiversity.	7	1	2	1
b)	Explain the structural components of an ecosystem? Give suitable examples?	7	1	2	1
	Unit-III				
3. a)	What are the sources, adverse effects and control of water pollution.	7	2	3	2
b)	How the soil gets effected by modern agriculture methods.	7	4	3	5
	Unit-IV				
4. a)	What is Climate change? Discuss the impacts of climate change on human environment.	7	3	4	1
b)	Explain the twelve principles of green chemistry and how it is useful to society	7	4	4	7
	Unit-V				
5. a)	Explain the saliant features of Air (Prevention and Control of pollution) Act-1981.	7	1	5	1
b)	Explain the steps involved in environmental impact assessment.	7	1	5	11
	a. Unit-I　　b. Unit-II				
6. a)	Explain briefly about different renewable energy resources.	7	2	1	7
b)	Discuss the various conservation methods of biodiversity.	7	2	2	1
	a. Unit-III　　b. Unit-IV				
7. a)	Define water pollution? Explain the impacts of water pollution on human beings and soil.	7	2	3	2
b)	Discuss the role of Greenhouse gases in Global warming.	7	2	4	3
	a. Unit-V　　b. Unit-I/II/III/IV/V				
8. a)	Evaluate major threats to attain sustainable development	7	5	5	7
b)	Evaluate food chain, food web and ecological pyramids with suitable examples.	7	1	1	1

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome