Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ENG101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I Semester (R18) Regular End Semester Examinations – Dec 2018

PROFESSIONAL ENGLISH

(Common to ALL)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	Use appropriate article. Have you had---------breakfast(a,an,the/no article)	1M
	ii.	Read the following sentence and try to choose the best definition for the italicized word by searching for context clues in the sentence. Man is not *destined to vanish.* (a) Man will vanish (b) Man is ill-fated (c) Human race will survive (d) Man is powerless	1M
	iii.	Fill in the blank choosing the correct homophone in the bracket. I need to ----------my skipping (Practice/ Practise)	1M
	iv.	Write a question for the following statement. Sir C. V. Raman was born on 8 November 1888. When…	1M
	v.	Change the following sentence from ***direct speech*** to **indirect speech**. He said, "Let's go for a ride".	1M
	vi.	Fill in the blanks with appropriate forms of the verb given in the bracket. The Republic day parade has begun. The soldiers----------(march)into the stadium.	1M
	vii.	Fill in the blank using appropriate compound noun Sahithi went to the hairdresser's. She has got a nice----------	1M
	viii.	Provide a synonym for *Passion*	1M
	ix.	Cross positions like folding hands and sitting in crossed leg position in a formal setup are appropriate signs of body language- True/ False	1M
	x.	Complete the following conditional sentence. If I won the lottery----------	1M

Q.2(A) Write a paragraph about **your experience in MITS during the first few days**. Describe the events in the order they happened. Use the appropriate transition words and phrases. You should write at least **150 words.** 10M

OR

Q.2(B) Write a paragraph not exceeding 200 words using the hints below. 10M

A rich mill owner- lot of mills- servants - two sons - happy life - After some years- younger son- greedy and selfish boy- felt unhappy - claimed for his share of the property - adamant-wouldn't listen to father's words - got his share - developed new friends- got addicted- sold them all - became pauper - poor - no one to help him -realised his mistake.

Q.3(A) Explain in detail verbal and non-verbal communication 10M

OR

Q.3(B) **Read the following passage carefully and answer the questions that follow.** 10M

Born on Jan 12, 1863 in an affluent Bengali family, Narendra Natha Datta was a precocious child who was what we call nowadays, an all-rounder, excelling in music, studies and athletics. His father Vishwanatha Datta was a well-known attorney. However, he took the spiritual route instead and introduced Hinduism to the world in 1893 when he spoke at the World's Parliament of Religion (probably one of the most epic things any Indian has done abroad!).

The historic speech was given on September 11, 1893 by Swami Vivekananda. Here's the full text of his opening and closing address:

Sisters and Brothers of America,

It fills my heart with joy unspeakable to rise in response to the warm and cordial welcome which you have given us. I thank you in the name of the most ancient order of monks in the world; I thank you in the name of the mother of religions, and I thank you in the name of millions and millions of Hindu people of all classes and sects.

My thanks, also, to some of the speakers on this platform who, referring to the delegates from the Orient, have told you that these men from far-off nations may well claim the honor of bearing to different lands the idea of toleration. I am proud to belong to a religion which has taught the world both tolerance and universal acceptance.

We believe not only in universal toleration, but we accept all religions as true. I am proud to belong to a nation which has sheltered the persecuted and the refugees of all religions and all nations of the earth. I am proud to tell you that we have gathered in our bosom the purest remnant of the Israelites, who came to Southern India and took refuge with us in the very year in which their holy temple was shattered to pieces by Roman tyranny. I am proud to belong to the religion which has sheltered and is still fostering the remnant of the grand Zoroastrian nation. I will quote to you, brethren, a few lines from a hymn which I remember to have repeated from my earliest boyhood, which is every day repeated by millions of human beings: "As the different streams having their sources in different paths which men take through different tendencies, various though they appear, crooked or straight, all lead to Thee."

The present convention, which is one of the most august assemblies ever held, is in itself a vindication, a declaration to the world of the wonderful doctrine preached in the Gita: "Whosoever comes to me, through whatsoever form, I reach him; all men are struggling through paths which in the end lead to me." Sectarianism, bigotry, and its horrible descendant, fanaticism, have long possessed this beautiful earth.

1. "I am proud to belong to a religion which has taught the world both tolerance and universal acceptance." Which religion is referred in the line?
   a. Buddhism b. Sikhism c. Hinduism d. Jainism
2. The word 'precocious' in the paragraph means
   a. Intelligent b. cute and pretty c. delinquent d. resolute
3. What was Vishwanatha Datta's profession?
   a. Attorney b. Spiritual leader c. Teacher d. None of the above.
4. Who spoke at the World's Parliament of Religion?
   a. Narendra Nath Datta b. Swami Vivekananda c. Both d. None
5. According to the passage, Who came to southern part of India as refugees?
   a. Americans b. Indians c. Israelites d. Pakistanis
6. Give the opposite of the word " Toleration" from the second passage of the speech
   a. Humanity b. Universal c. Magnanimity d. Mercilessness
7. In the phrase: "all lead to Thee", to whom does the word 'Thee' refer?
   a. All religions b. The delegates present c. Universal brotherhood and peace d. God
8. The word 'brethren' used by the speaker insinuates
   a. Friendly tone b. Sarcastic tone c. Pessimistic tone d. aggressive tone
9. In the phrase: "I am proud to belong to a nation" – what nation is the speaker referring to?
   a. India b. Srilanka c. Rome d. America
10. Which is the holy book that the speaker quotes in his speech?
    a. The Ramayana b. The Vedas c. The Puranas d. The Bhagavad Gita

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Q.4(A) **Fill in the blanks with appropriate verb forms** 10M

i. Most of the health conscious people _____ (go) for a walk every morning.
ii. Fuel price _____(increase) often in India.
iii. I _____ (go) to Dubai in December 2017.
iv. I planned to do my internship in Chennai. I_____ (leave) tomorrow.
v. I _____ (see) Taj Mahal.
vi. vii. She _____ just _____ (finish) playing Tennis
viii. I _____(wait) for you since 6 p.m.
ix. By next April, I_____(receive) my Bachelor's degree.
x. I_____ (watch) a lot of TV shows recently.

OR

Q.4(B) Create a conversation between you and your family members planning to go to a foreign Trip this Summer. 10M

Q.5(A) Match each word in first column with one in the second column to make a compound word 10M

i	Water	a	stick
ii	Match	b	ache
iii	Egg	c	clip
iv	Tooth	d	Post
v	Dish	e	Man
vi	Paper	f	hole
vii	Key	g	tail
viii	Cock	h	washer
ix	Lamp	i	cup
x	Post	j	melon

OR

Q.5(B) Assume the role of a mid-level manager of a small company. The CEO, Johns, wants your views on a new computer network he is considering. The current network is adequate, but the new one will provide much greater capabilities for managing files, word processing, and accessing the database. 10M

Write a one-page memo in which you list (1) the key factors that you believe must be taken into account in making the decision, and (2) the trade-offs (a balance achieved between two desirable but incompatible features) that must be considered.

Q.6(A) As a resident of Hyderabad, write an email to the Municipal commissioner of your city, Mr. Ashok, reporting nuisance of a building under construction beside your place. Sign the email as Kumar. 10M

building - construction - long time - three years - water usage - mosquitoes - unhygienic - construction workers - bad behaviour - attention -request - action - immediately

OR

Q.6(B) As a student representative of your department, write an email to your batch mates, suggesting a party for the Head of the Department Prof. Sunil who is retiring next month. Sign the email as Sam. 10M

inform - retire - plan - surprise - party - host - family - exceptional teacher - guide - mentor - grooms - students - helpful - together – memorable.

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18MAT101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I Semester (R18) Regular End Semester Examinations – Dec 2018

ENGINEERING CALCULUS

(Common to CE, ME, ECE, CSE, CS&IT, CST)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	Evaluate $\int_1^2 x^3 dx$	1M
	ii.	Define beta function	1M
	iii.	State Rolle's theorem	1M
	iv.	Evaluate $\underset{x\to 0}{Lt}\frac{\sin x}{x}$	1M
	v.	Examine the sequence for convergence $a_n = 3+(-1)^n$	1M
	vi.	Write the formula for Fourier series for the function $f(x)$ in $(0,2\pi)$	1M
	ii.	Find the first order partial derivatives $\frac{\partial f}{\partial x}, \frac{\partial f}{\partial y}$ of $f = x^3 + y^3 - 3axy$	1M
	viii.	When the function f(x,y) has maximum.	1M
	ix.	Evaluate $\int_0^2 \int_0^{e^x} dydx$	1M
	x.	State Green's theorem.	1M
Q.2(A)		Graph the curve of the cardioid r= a(1+cosθ)	10M
		OR	
Q.2(B)		i. Prove that $\int_0^{\frac{\pi}{2}} \sin^2\theta \cos^4\theta d\theta = \frac{\pi}{32}$	5M
		ii. Evaluate $\int_0^{\infty} x^4 e^{-x^2} dx$	5M
Q.3(A)		i. Verify Rolle's theorem for the function $f(x) = \frac{\sin x}{e^x}$ in $[0,\pi]$	5M
		ii. Expand $\log(1+x)$ by Maclaurin's series up to the term containing x^4	5M
		OR	
Q.3(B)		i. Evaluate $\underset{x\to 0}{Lt}\left(\frac{1^x+2^x+3^x}{3}\right)^{\frac{1}{x}}$	5M
		ii. Find the maximum and minimum values of $3x^4-2x^3-6x^2+6x+1$ in the interval (0,2)	5M

Q.4(A)	Test for the convergence (i) $\sum_{n=1}^{\infty} \frac{1}{\sqrt{n}+\sqrt{n+1}}$ (ii) $\sum_{n=1}^{\infty} \frac{n!}{(n^n)^2}$	10M
	OR	
Q.4(B)	i. Express f(x)=x as a half-range sine series in 0<x<2	5M
	ii. Find a fourier series to represent x^2 in the interval (-l , l)	5M
Q.5(A)	i. Find the first and second partial derivatives of $f(x,y) = ax^2 + by^2 + 2hxy$	5M
	ii. Find the directional derivative of F = xy + yz + zx in the direction of vector $i+2j+2k$ at the (1,2,0)	5M
	OR	
Q.5(B)	Find the Extreme values of $f(x,y) = x^4 + y^4 - 2x^2 + 4xy - 2y^2$ (x>0,y>0)	10M
Q.6(A)	Change the order of integration and evaluate $\int_0^1 \int_{x^2}^{2-x} xydydx$	10M
	OR	
Q.6(B)	Use Green's theorem to evaluate $\int_c [(xy+y^2)dx + x^2dy$ where c is bounded by y=x and $y=x^2$	10M

***** END*****

Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18MAT105

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

B.Tech I Year I Semester (R18) Regular End Semester Examinations – Dec 2018
CALCULUS AND DIFFERENTIAL EQUATIONS
(EEE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	Obtain the Maclaurin's series expansion of *Cosx.*	1M
	ii.	State the Rolle's heorem.	1M
	iii.	Find the value of f_x, if $f(x,y)=x^2y-a(x^2+y^2)$ at (-2a, 2a).	1M
	iv.	Write the necessary conditions for $f(x,y)$ to have maximum or minimum at (a,b).	1M
	v.	Evaluate $\int_0^2\int_0^x ydydx$	1M
	vi.	State Gauss divergence theorem.	1M
	vii.	Write the general solution of Linear differential equation in *y*.	1M
	viii.	Find the P.I (particular integral) of $(D^2+D+1)y=x^3$	1M
	ix.	State P-Series test.	1M
	x.	Write the Quasi-linear form of partial differential equation.	1M
Q.2(A)		Verify Maclaurin's theorem for $f(x)=(1-x)^{5/2}$ with Lagrange's remainder up to 3 terms in [0,1].	10M
		OR	
Q.2(B)		Find the volume of the solid generated by revolving the lemicon $r=a(1+cos\theta)$ about the major axis.	10M
Q.3(A)		If $u=f(r,s,t)$ where $r=\frac{x}{y}$, $s=\frac{y}{z}$, $t=\frac{z}{x}$ then find $x\frac{\partial u}{\partial x}+y\frac{\partial u}{\partial y}+z\frac{\partial u}{\partial z}$	10M
		OR	
Q.3(B)		Find a point on the plane $3x+2y+z=12$ which is nearest to the origin. Also find the shortest distance.	10M
Q.4(A)		Evaluate the area of the region R bounded by the parabolas $y^2=4x$ and $x^2=4y$	10M
		OR	
Q.4(B)		Verify Stokes theorem for $\bar{F}=(x^2+y^2)\bar{i}-2xy\bar{j}$ taken round the rectangle bounded by the lines $x=\pm a, y=0, y=b$	10M

Q.5(A) (i) Solve $x\frac{dy}{dx}+y=x^3y^6$ 5M

(ii) Solve $\frac{dy}{dx}+\frac{y\cos x+\sin y+y}{\sin x+x\cos y+x}=0$ 5M

OR

Q.5(B) Solve $(1+x)^2y''-3(1+x)y'+4y=x^2+x+1$ 10M

Q.6(A) Form the partial differential equations by eliminating the arbitrary functions from

(i) $z=(x+y)\phi(x^2-y^2)$ 5M

(ii) $z=f(x+at)+g(x-at)$ 5M

OR

Q.6(B) Determine the nature of the series $\sum_{n=2}^{\infty}\frac{1}{n(\log n)^p}$ 10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18PHY101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I Semester (R18) Regular End Semester Examinations – Dec 2018

ENGINEERING PHYSICS

(Mechanical Engineering)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

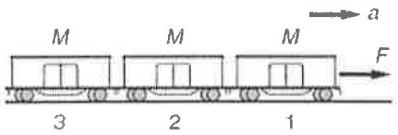
Q.1	i.	$\hat{r}$ and $\hat{\theta}$ represent base vectors in polar coordinate system. what is $\hat{r} \cdot \hat{\theta}$?	1M
	ii.	Write Newton's 2nd law in differential form.	1M
	iii.	What is conservation of linear momentum?	1M
	iv.	State work-energy theorem.	1M
	v.	Mention characteristics of SHM.	1M
	vi.	Define standing wave ratio (SWR).	1M
	vii.	What is interference?	1M
	viii.	What is the relationship between the path difference and phase difference?	1M
	ix.	Which material is used for ruby rod in ruby laser?	1M
	x.	Explain metastable state in laser?	1M

Q.2(A) i) Derive the expression of velocity in polar coordinates by starting from position $\vec{r} = r\hat{r}$ of the particle. 4M

ii) The position of the particle is given by $\vec{r} = A(e^{\alpha t}\hat{\imath} + e^{-\alpha t}\hat{\jmath})$, where A and α are a constant. Find the velocity, acceleration, and sketch the trajectory. 6M

OR

Q.2(B) i) Three freight cars each of mass M are pulled with a force F by a locomotive. Friction is neglected. Find the force acting on each car? 5M



ii) A 5-kg mass moves under the influence of a force $\vec{F} = (4t^2\hat{\imath} - 3t\hat{\jmath})$ Newton, where t is the time in seconds. It starts at rest from the origin at t = 0. Find $r \times v$ at any later time. 5M

Q.3(A) i) Derive fundamental rocket equation. 5M

ii) A space craft moves through space with constant velocity '*v*'. The spacecraft encounters a stream of dust particles which embed themselves in it at rate dm/dt. The dust has velocity '*u*' just before it hits. At time 't', the total mass of the spacecraft is *M*(*t*). The problem is to find the external force '*F*' necessary to keep the spacecraft moving uniformly. 5M

OR

Q.3(B) Find the expression for escape velocity for an object of mass '*m*' projected upward from the earth, using work-energy theorem. 10M

Q.4(A)	i) Show that for a simple harmonic oscillator, total energy remains constant and it is proportional to the square of the amplitude. ii) Deduce differential form of wave equation?	6M 4M
	OR	
Q.4(B)	The two perpendicular motions are given below. i) $x = \cos 5\pi t$ and $y = \cos 5\pi t$ ii) $x = 10 \cos \pi t$ and $y = 10 \cos 2\pi t$ Construct the Lissajous figures for the above motions.	10M
Q.5(A)	Give experimental setup of Newton's ring experiment and prove that the diameters of the dark rings are proportional to the square roots of natural numbers. Determine the radius of curvature of plano convex lens using Newton's ring experiment.	10M
	OR	
Q.5(B)	Discuss the Fraunhoffer diffraction due to single slit with a suitable diagram.	10M
Q.6(A)	i) Obtain a relation between the various Einstein's coefficients of absorption and emission of radiation. ii) Mention any two applications of laser.	8M 2M
	OR	
Q.6(B)	With the help of suitable diagrams, explain the construction and working of a He-Ne laser.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18PHY102

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I Semester (R18) Regular End Semester Examinations – Dec 2018

MODERN PHYSICS

(Common to EEE & CSE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	Y =0.2 Sin ($20\pi t$ - $5x$) cm, what is the frequency of the wave?	1M
	ii.	Write the relationship between path difference and phase relation? What is path difference, when phase difference = 3π?	1M
	iii.	Why Newton's rings appear as circular rings?	1M
	iv.	What is diffraction grating? Write grating equation?	1M
	v.	Write any two properties of Matter waves?	1M
	vi.	Calculate the wavelength associated with an electron raised to a potential of 1600 Volts.	1M
	vii.	What are the drawbacks of classical free electron theory of metals?	1M
	viii.	Write any two differences between direct and indirect band gap semiconductors?	1M
	ix.	What is meant by active material and metastable state in a laser?	1M
	x.	What are the characteristics of Lasers?	1M

Q.2(A)	i). What are Lissajous figures? On which factor the shape of Lissajous figures depend?	2M
	ii). Construct the Lissajous figure for a particle executing SHM motions x = 10cos $2\omega t$ and y = 10sin ωt simultaneously.	8M
	OR	
Q.2(B)	i). Deduce the differential equation of propagation of one dimensional wave.	4M
	ii).What is transverse wave? Using general wave equations obtain wave equation for transverse wave in stretched string.	6M
Q.3(A)	i). Explain the principle of superposition of waves? Explain Young's experiment on the basis of wave theory?	8M
	ii). Newton's rings are observed in the reflected light of wavelength 5900 A^o. The diameter of 10^{th} dark ring is 0.5 cm. Find the radius of curvature of lens used.	2M
	OR	
Q.3(B)	Discuss the Fraunhofer diffraction at a single slit. Obtain the condition for primary and secondary maxima. Using this obtain intensity distribution curve.	10M

Q.4(A)	i). Derive time-independent Schrodinger wave equation for free particle. Explain the physical significance of wave function.	8M
	ii). A microscope using photons is employed to locate an electron in an atom to within a distance of 0.2 A^{o}. What is uncertainty in the momentum of the electron located in this why?	2M
	OR	
Q.4(B)	i). Explain the principle and working of scanning tunneling microscope (STM)?	7M
	ii). An electron is bounded in one- dimensional box of size 4×10^{-10} m. What will be its minimum energy? (Given $h= 6.626 \times 10^{-34}$ J S and $m= 9.1\times 10^{-31}$ kg)	3M
Q.5(A)	i). Explain the origin of energy bands in solids.	4M
	ii). Discuss the formation of allowed and forbidden energy bands on the basis of the Penney model.	6M
	OR	
Q.5(B)	i). What is Fermi energy level? How it varies with temperature in n-type and p-type semiconductors.	5M
	ii). Explain I-V Characteristics of a PN junction diode under forward bias and a reverse bias.	5M
Q.6(A)	i) What do you understand by population inversion? How it is achieved.	4M
	ii). Derive the relation between the probabilities of spontaneous emission and stimulated emission in terms of Einstein's coefficient.	6M
	OR	
Q.6(B)	With neat energy level diagram of exited states of He – Ne laser system, explain the emission a laser light in the visible and infra red region.	10M

***** END*****

Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18CHE101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I Semester (R18) Regular End Semester Examinations – Dec 2018

ENGINEERING CHEMISTRY

(Common to CE, ECE, CS&IT, CST)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

Q.1	i.	Write the formula used to calculate the temporary hardness.	1M
	ii.	List out the disadvantages of using hard water in the boiler.	1M
	iii.	Draw the Lewis structures for NH_3 and HBr.	1M
	iv.	Write an example for condensation polymerization.	1M
	v.	Where the UV-Visible and NMR regions occurs in an electromagnetic spectrum?	1M
	vi.	State the selection rule for IR spectroscopy.	1M
	vii.	Define first law of thermodynamics.	1M
	viii.	Write the equation for heat capacity at constant volume.	1M
	ix.	How does surface area varies based on size?	1M
	x.	What is top-down approach in nanomaterial preparation?	1M
Q.2(A)		Describe the demineralization process of softening hard water with suitable diagram.	10M
		OR	
Q.2(B)		Discuss in detail the various steps involved in the domestic water treatment process.	10M
Q.3(A)		(i) Explain the anomalous electronic configuration of chromium and copper.	5M
		(ii) Discuss about the atomic radii of elements across a period in the periodic table.	5M
		OR	
Q.3(B)		Elaborate on E1 and E2 elimination reactions with suitable examples.	10M
Q.4(A)		(i) Discuss about the electronic transitions of conjugated π-systems.	5M
		(ii) Brief out the applications of NMR spectroscopy.	5M
		OR	
Q.4(B)		Elaborate the principle and applications of microwave spectroscopy.	10M
Q.5(A)		(i) Explain the work and heat of a system in term of thermodynamics.	5M
		(ii) Elaborate on the estimation of entropy of an isothermal process with an example.	5M
		OR	
Q.5(B)		(i) Explain the construction and principle of an auxiliary power supply source used in space vehicle with neat diagram.	5M
		(ii) Describe the charging and discharging processes of lead-acid battery.	5M
Q.6(A)		(i) Discuss a method of manufacture of cement.	5 M
		(ii) Explain the chemical vapour decomposition method for CNT preparation.	5 M
		OR	
Q.6(B)		Describe the various properties of lubricants.	10M

*** END***

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18EEE101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I Semester (R18) Regular End Semester Examinations – Dec 2018

BASIC ELECTRICAL ENGINEERING

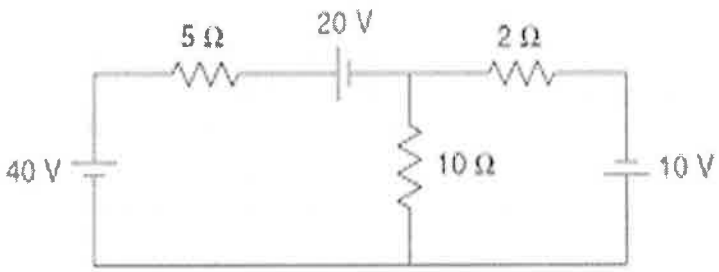
(Common to EEE, ME & CSE)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 2 to 6 answer either A or B only

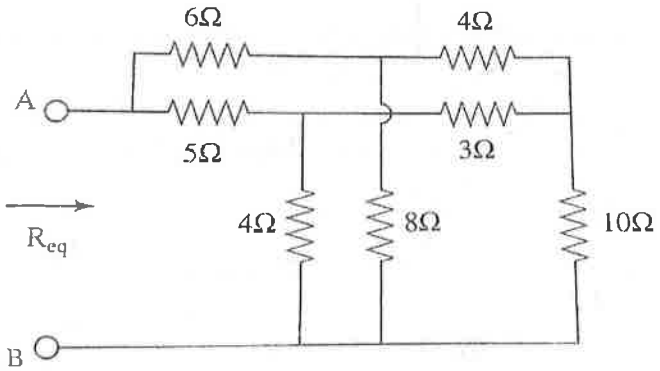
Q.1	i.	Give the statement of super position theorem.	1M
	ii.	State Kirchhoff's current law & mention its significance.	1M
	iii.	A capacitor of 100μF is connected to a 50Hz AC supply. Determine its capacitive reactance.	1M
	iv.	Define phase sequence for a Three phase AC system.	1M
	v.	Draw the B-H curve corresponding to a ferro magnetic material.	1M
	vi.	What are the components of no-load current of a transformer?	1M
	vii.	What is an alternator?	1M
	viii.	List the methods of speed control of a DC Motor.	1M
	ix.	Write full form of ELCB. What is its function?	1M
	x.	Why is grounding necessary in an Electrical system?	1M

Q.2(A) Find the current through 2Ω resistor using super position theorem. 10M



OR

Q.2(B) Apply star-delta transformation and find equivalent resistance between terminals A & B in the network shown below 10M



Q.3(A)	i) Define active, reactive and apparent powers and mention their units.	3M
	ii) A series R-L circuit draws 10A and an active power of 1000W when connected to a 230V, 50Hz single phase supply. Determine a) Impedance b) Resistance c) Inductance d) Power factor	7M
	OR	
Q.3(B)	i) Mention the advantages of three phase systems over single phase systems.	4M
	ii) A balanced three phase load consists of three coils, each of 4Ω resistance and 0.02 H inductance connected in star. Determine the total active power, if the line voltage is 400 V, 50 Hz.	6M
Q.4(A)	i) With proper nomenclature and necessary assumptions, derive the EMF equations of a single- phase transformer.	6M
	ii) A 10KVA, 1000V/500V, 50Hz single-phase transformer has 200 primary turns when the load is connected to its 500V side. Determine a) Number of secondary turns b) Full load primary and secondary currents c) Net cross-sectional area of the core Consider maximum flux density of 1 Tesla.	4M
	OR	
Q.4(B)	i) Write a short note on various losses occurring in a single-phase transformer.	4M
	ii) A 2KVA, 200V/100V, 50Hz single-phase transformer has a core loss of 25W and full load copper loss of 50W. Determine a) Efficiency at Half load condition and 0.8 lagging power factor b) Efficiency at Full load and Unity power factor c) Maximum efficiency corresponding to Unity power factor	6M
Q.5(A)	i) With proper nomenclature and necessary assumptions, Derive the EMF Equation of a DC Generator.	6M
	ii) A 4 pole DC Generator has 500 wave wound armature conductors. If the induced EMF is 200V when running at 1200rpm, find the useful flux per pole.	4M
	OR	
Q.5(B)	i) Discuss how a rotating magnetic field is produced in a three phase induction motor.	7M
	ii) A three phase induction motor wound for 4 stator poles is connected to a three phase supply of frequency 50Hz. Determine the slip if rotor speed is 1450 rpm.	3M
Q.6(A)	Explain in detail the operation of a full wave bridge rectifier with a neat circuit diagram and relevant waveforms.	10M
	OR	
Q.6(B)	Explain in detail the operation of a PN junction diode in forward and reverse bias conditions and draw the relevant V – I characteristics.	10M

***** END*****

Set - 1

Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18ME101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I [redacted] Semester (R18) Regular End Semester Examinations –December 2018

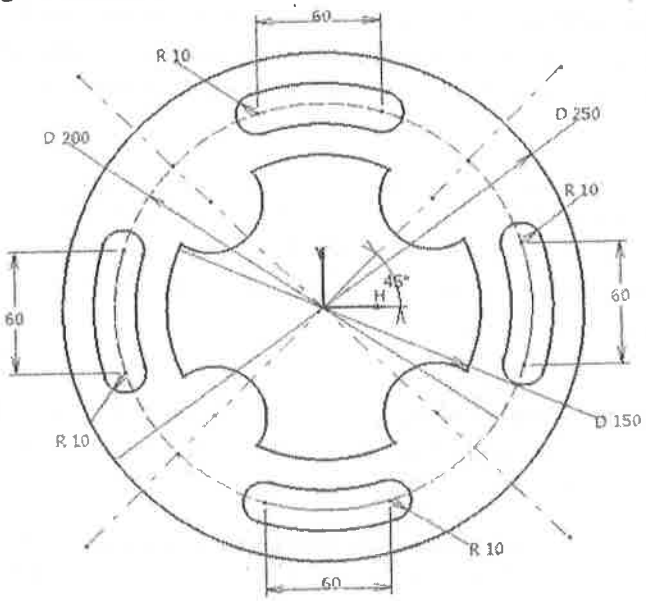
Engineering Graphics

(Common to CE & CST)

: 3Hrs **Max Marks: 60**

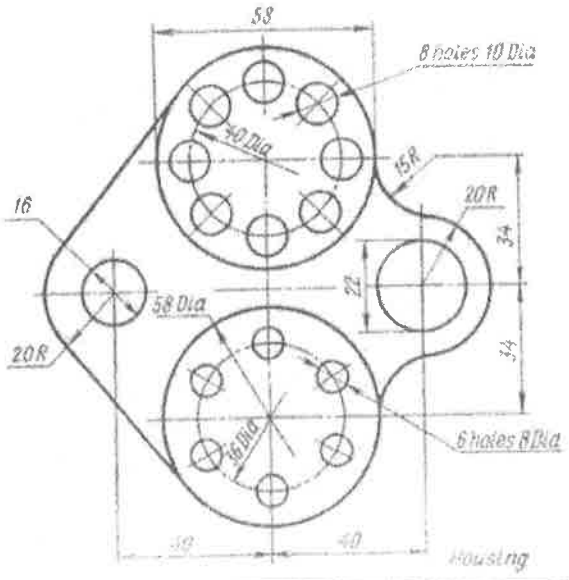
Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 1 to 5 answer either Part-A or B only

Q.1(A) Draw the given figure using AutoCAD commands and dimension it. 12M



OR

Q.1(B) Draw the given figure using AutoCAD commands and dimension it. 12M



Q.2(A) Two points A and B are in the H.P. The point A is 30mm in front of the V.P., while B is behind the V.P. The distance between their projectors is 75mm and the line joining their top views makes an angle of 45^0 with xy. Find the distance of the point B form the V.P. 12M

OR

Q.2(B) A line PQ of 80mm long has its end P at 20mm above H.P. and 25mm in front of V.P. Its front view and top view measure 65mm and 70mm respectively. Draw the projections of the line and determine its inclinations with H.P. and V.P. 12M

Q.3(A) An equilateral triangle of 40 sides has its plane parallel to HP and 30 away from it. Draw the projections when one of its sides is (a) perpendicular to VP (b) parallel to VP (c) at an angle of 45° to VP 12M

OR

Q.3(B) A hexagonal prism with side of base 30mm and axis 80mm long is resting with an edge of its base on H.P, such that the rectangular face containing that edge is inclined at 40^0 to HP. Draw the projections of the prism when its axis is parallel to V.P. 12M

Q.4(A) A pentagonal pyramid of base side 30 mm and axis length 60mm is resting on H.P on its base with one of its base side parallel to VP. It is cut by a plane inclined at 30° to H.P and perpendicular to VP and is bisecting the axis. Draw its front view, sectional top view 12M

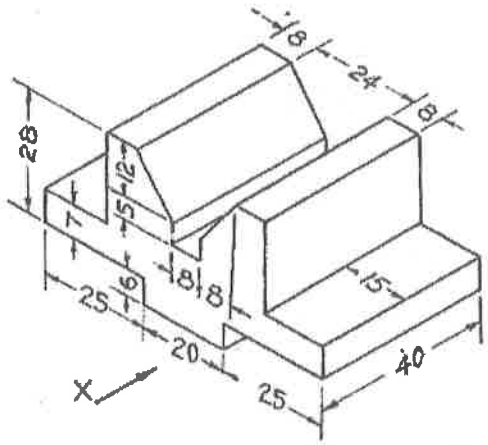
OR

Q.4(B) A pentagonal prism of base side 30mm and height 60mm is resting on its base on H.P with one of its rectangular face parallel to VP. Draw the development of the lateral surface of the prism. 12M

Q.5(A) A cylinder 50mm dia.and 70mm axis is completely penetrated by another cyliner of 40 mm dia.and 70 mm axis horizontally Both axes intersect & bisect each other. Draw projections showing curves of intersections. 12M

OR

Q.5(B) 12M



Draw the front view, top view and side view of the above figure

*** END***

Set - 2

Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18ME101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I [illegible] Semester (R18) Regular End Semester Examinations –December 2018

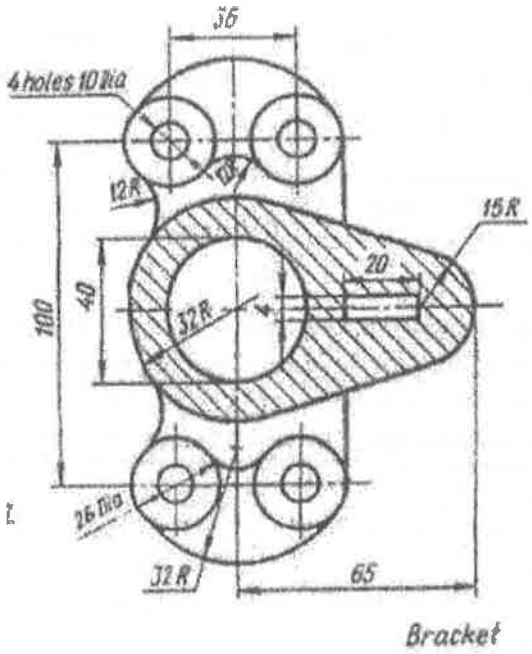
Engineering Graphics

(Common to CE & CST)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 1 to 5 answer either Part-A or B only

Q.1(A) 12M

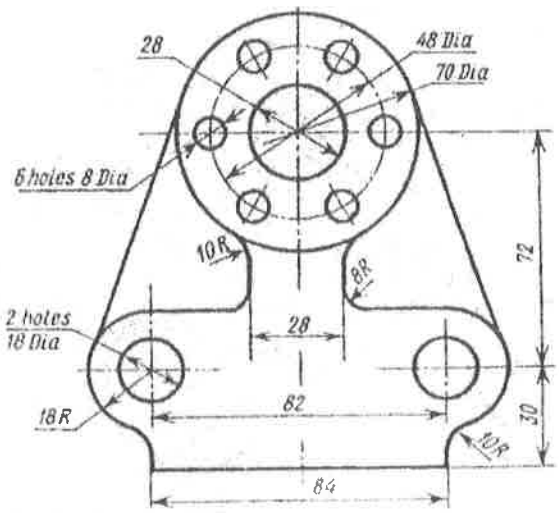


Bracket

Draw the above figure using AutoCAD Commands

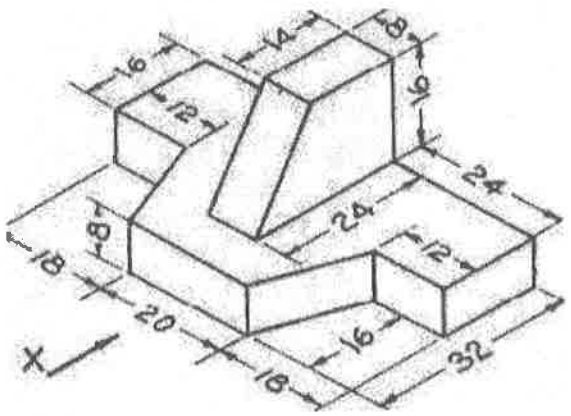
OR

Q.1(B) 12M



Draw the above figure using AutoCAD Commands

Q.2(A)	A line AB 80mm long is inclined at an angle of 45^0 to H.P and 60^0 to V.P. The point A is 20mm above H.P and 30mm infront of V.P. Draw its Projections and find the apparent inclinations with respect to HP and VP..	12M
	OR	
Q.2(B)	Draw the projections of the following points by keeping the projectors as 50mm apart (i) Point A - In H.P and 20 mm behind V.P (ii) Point B - 30 mm below H.P, 45mm behind V.P. (iii) Point C - 40 mm above H.P, 35mm in front of V.P (iv) Point D – On HP and on VP	12M
Q.3(A)	A rectangular lamina with longer edge 50mm and smaller edge 30mm is resting on one of its smaller edges on the HP. It is inclined with the HP in such a way that its TV appears as a square with maximum dimensions. Draw projections if the smaller edge makes inclinations of 60^0 with the VP	12M
	OR	
Q.3(B)	A Pentagonal prism with side of base 40mm and axis 100mm long is resting with an edge of its base on H.P., such that the rectangular face containing that edge is inclined at 30^0 to HP. Draw the projections of the prism when its axis is parallel to V.P.	12M
Q.4(A)	A hexagonal pyramid side of base 40 mm and axis 60 mm long rests with one of the corners of its base on H.P. Its axis is inclined at 35^0 to H.P. Draw its projections.	12M
	OR	
Q.4(B)	A cylinder of diameter of base 40mm and axis 55mm long is resting on its base on H.P. It is cut by a section plane, perpendicular to V.P and inclined at 45^0 to H.P. The section plane is passing through the top end of an extreme generator of the cylinder. Draw the development of the lateral surface of the cut cylinder.	12M
Q.5(A)	A Vertical square prism base 50mm side, is completely penetrated by a horizontal square prism, base 35mm side, so that their axes intersect. The axis of the horizontal prism is parallel to the V.P., while the faces of the two prisms are equally inclined to the V.P. Draw the projections of the solids, showing lines of intersection. (Assume suitable lengths for the prisms).	12M
	OR	
Q.5(B)	Draw the Front view, Top View and Side view for the figure given	12M



*** END***

Set - 3

Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18ME101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I & II Semester (R18) Regular End Semester Examinations –December 2018

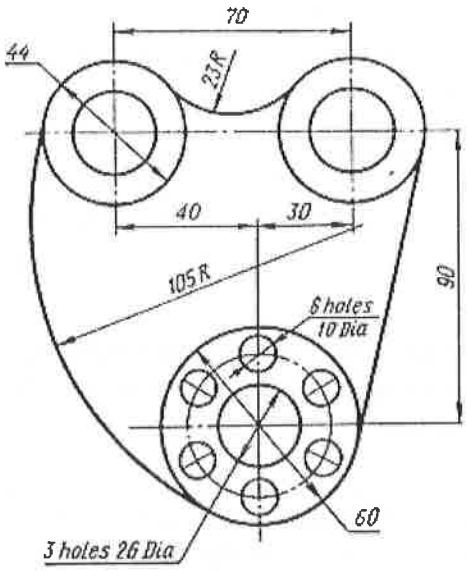
Engineering Graphics

(Computer Science & Information Technology)

: 3Hrs **Max Marks: 60**

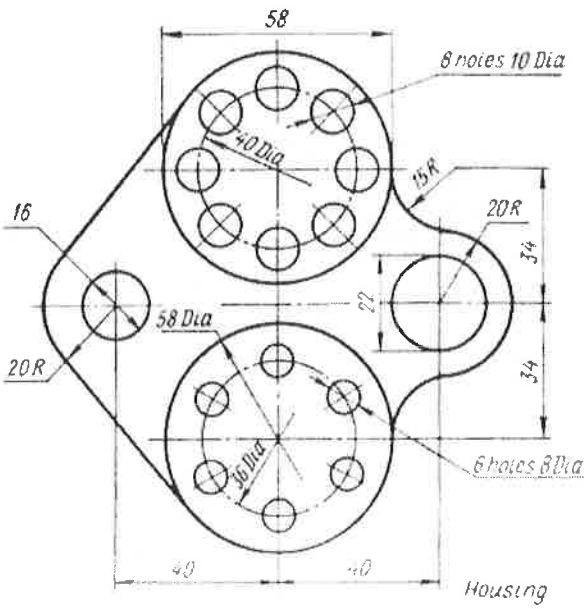
Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 1 to 5 answer either Part-A or B only

Q.1(A) Draw the given figure using AutoCAD commands and dimension it. 12M



OR

Q.1(B) Draw the given figure using AutoCAD commands and dimension it. 12M



Q.2(A) Draw the projections of the following points, keeping the distance between the projectors as 25mm on the same reference lines. 12M

A – 20mm above HP and 30mm in front of VP
B – 20mm above HP and 30mm behind VP
C – 20mm below HP and 30mm behind VP
D – 20mm below HP and 30mm in front of VP

OR

Q.2(B) A line AB 70mm long is inclined 45^0 to HP and its top view makes an angle of 60^0 with xy. The end A of the line is 20mm above HP and 30mm in front of VP. Draw the projections of the line. 12M

Q.3(A) A Square ABCD of size 30mm is perpendicular to the V.P. and inclined to the H.P. at 60^0. One of its side is perpendicular to the V.P. Draw the projections. 12M

OR

Q.3(B) A triangular prism having base edge 40mm and height 70mm is resting on one of its base edges on the ground with axis parallel to VP. Draw projections of solid if the axis makes an angle of 40^0 to the ground. 12M

Q.4(A) A cylinder of base diameter 40 mm and height 80 mm rests on its base on HP. It is cut by a plane inclined 45^0 to HP and passing through a point 30mm from top base of the axis. Draw the front view, sectional top view and true shape. 12M

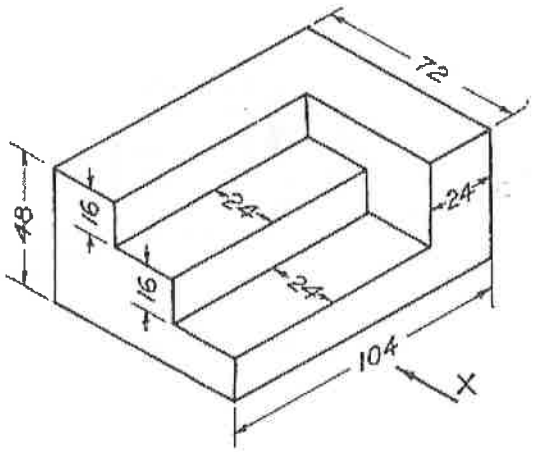
OR

Q.4(B) A Hexagonal prism of base side 30mm and height 60mm is resting on its base on H.P with one of its rectangular face parallel to VP. Draw the development of the lateral surface of the prism. 12M

Q.5(A) A cylinder 50mm dia.and 70mm axis is completely penetrated by another cyliner of 30 mm dia.and 60 mm axis horizontally Both axes intersect & bisect each other. Draw projections showing curves of intersections. 12M

OR

Q.5(B) 12M



Draw the front view, top view and side view of the above figure

*** END***

Set - 4

Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18ME101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I & II Semester (R18) Regular End Semester Examinations –December 2018

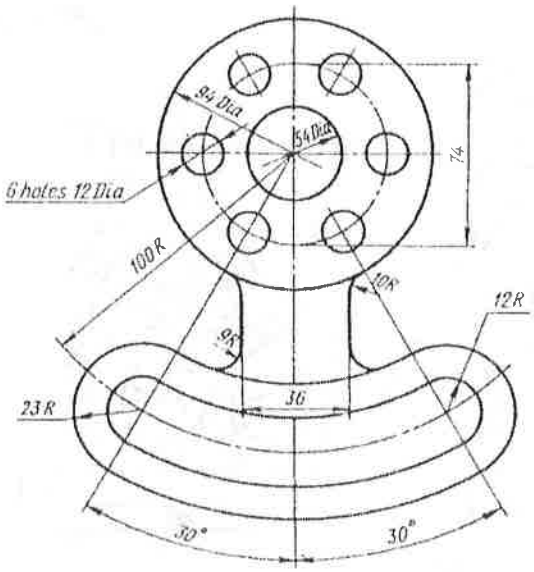
Engineering Graphics

(Computer Science & Information Technology)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 1 to 5 answer either Part-A or B only

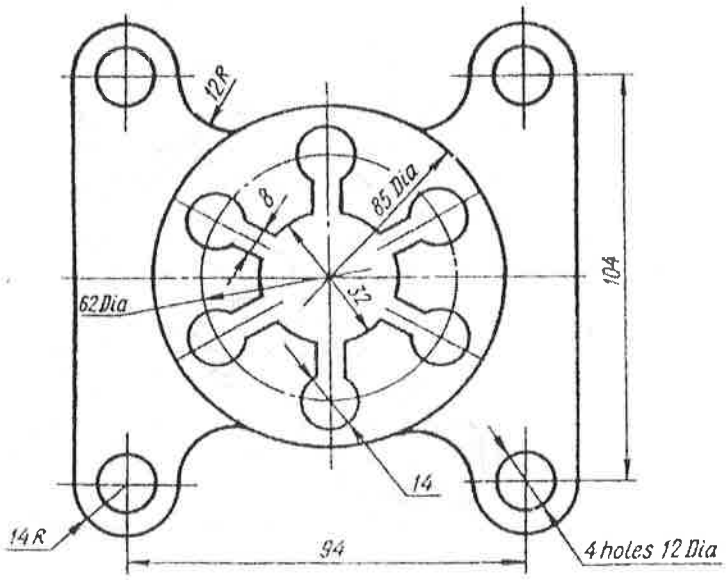
Q.1(A) 12M



Draw the above figure using AutoCAD Commands

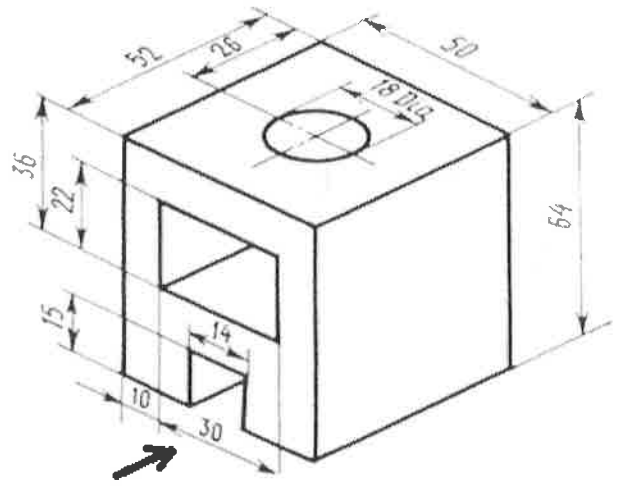
OR

Q.1(B) 12M



Draw the above figure using AutoCAD Commands

Q.2(A)	i) A point A is 10mm below H.P, 20mm behind V.P and 30mm in front of P.P. Draw front view, top view and left side view of the point. ii) A point B is 20mm above H.P, 10mm in front of V.P and 30mm in front of P.P. Draw front view, top view and left side view of the point.	12M
	OR	
Q.2(B)	A line RS 80mm long is inclined 30^0 to HP and 45^0 to VP. The end R of the line is 20mm above HP and 30mm in front of VP. Draw the projections of the line.	12M
Q.3(A)	An Equilateral triangle plate of negligible thickness having 40mm edge length is resting on one of its side on HP. The surface makes an inclination of 30^0 to HP and resting side makes an inclination of 60^0 to VP. Draw the projection of the plate.	12M
	OR	
Q.3(B)	A Hexagonal Prism of base edge 30 mm and axis 80mm has a corner on the H.P with its axis inclined at 45^0 to the H.P. Draw the projections when the axis is parallel to V.P.	12M
Q.4(A)	A pentagonal prism of base side 30 mm and axis length 60 mm is resting on H.P. on one of its rectangular faces, with its axis perpendicular to V.P. It is cut by a plane inclined at 50° to V.P. and perpendicular to H.P. and passing through a point 25 mm from rear base of the prism. Draw its top view and sectional front view of solid.	12M
	OR	
Q.4(B)	A cylinder of diameter of base 40mm and axis 55mm long is resting on its base on H.P. It is cut by a section plane, perpendicular to V.P and inclined at 45° to H.P. The section plane is passing through the top end of an extreme generator of the cylinder. Draw the development of the lateral surface of the cut cylinder.	12M
Q.5(A)	A Vertical square prism base 50mm side, is completely penetrated by a horizontal square prism, base 35mm side, so that their axes intersect. The axis of the horizontal prism is parallel to the V.P., while the faces of the two prisms are equally inclined to the V.P. Draw the projections of the solids, showing lines of intersection. (Assume suitable lengths for the prisms).	12M
	OR	
Q.5(B)	Draw the Front view, Top View and Side view for the figure given	12M



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Set - 5

Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18ME101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I Semester (R18) Regular End Semester Examinations –December 2018

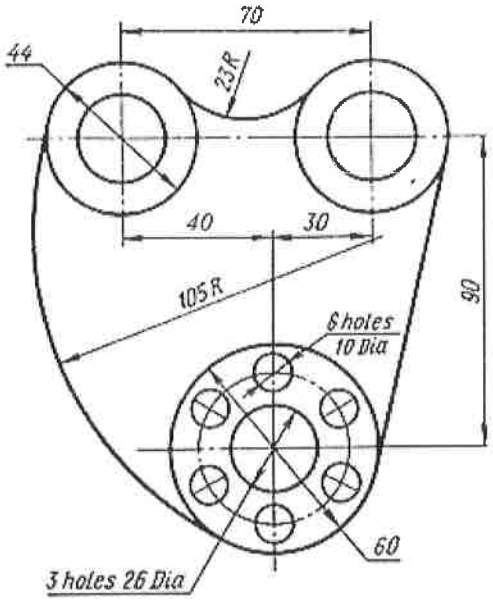
Engineering Graphics

(Electronics & Communication Engineering)

: 3Hrs **Max Marks: 60**

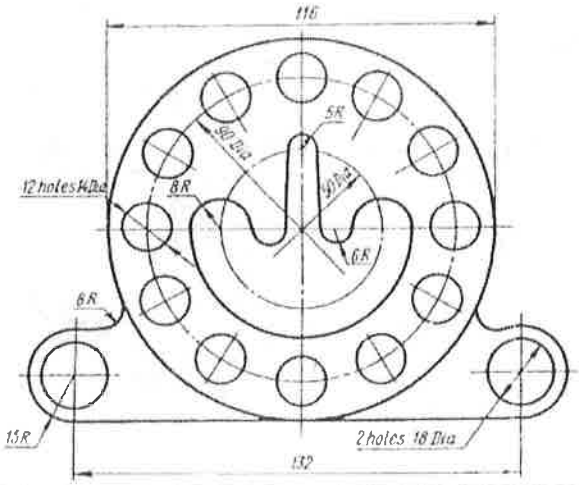
Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 1 to 5 answer either Part-A or B only

Q.1(A) Draw the given figure using AutoCAD commands and dimension it. 12M



OR

Q.1(B) Draw the given figure using AutoCAD commands and dimension it. 12M



Q.2(A) Draw the projections of the following points, keeping the distance between the projectors as 40 mm on the same reference lines. 12M

E – 20mm below HP and 30mm behind VP
F – 30mm above HP and 40mm behind VP
G – 30 mm above HP and 40mm in front of VP
H – 20mm below HP and 30mm in front of VP

OR

Q.2(B) A line AB is 80mm length. Point A is 20mm above HP and 20mm In front of VP. Another end point B is 40mm above HP and 50mm In front of VP. Draw the projections and determine the inclination angles with HP and VP 12M

Q.3(A) A Square ABCD of size 30mm is perpendicular to the V.P. and inclined to the H.P. at 60^0. One of its side is perpendicular to the V.P. Draw the projections. 12M

OR

Q.3(B) A Pentagonal Prism of base edge 30 mm and axis 70mm rests on an edge of its base in the H.P. Its axis is parallel to V.P and inclined at 45^0 to H.P. Draw its projections. 12M

Q.4(A) A cylinder of base diameter 40 mm and height 80 mm rests on its base on HP. It is cut by a plane inclined 45^0 to HP and passing through a point 30mm from top base of the axis. Draw the front view, sectional top view and true shape. 12M

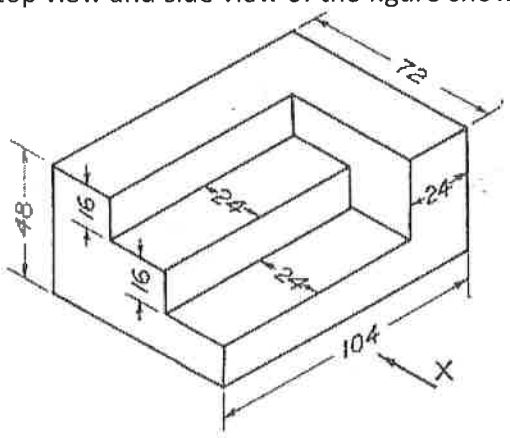
OR

Q.4(B) A Pentagonal prism having 30mm base edge and 70mm height is standing on its base on the ground with one base edge parallel to VP. It is cut by a plane inclined 45^0 to HP and passing through a point 30mm above the base. Draw the development of lateral surfaces of the cut pyramid. 12M

Q.5(A) A Vertical square prism base 50mm side, is completely penetrated by a horizontal square prism, base 35mm side, so that their axes intersect. The axis of the horizontal prism is parallel to the V.P., while the faces of the two prisms are equally inclined to the V.P. Draw the projections of the solids, showing lines of intersection. (Assume suitable lengths for the prisms). 12M

OR

Q.5(B) Draw the front view, top view and side view of the figure shown below 12M



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Set - 6

Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18ME101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I Semester (R18) Regular End Semester Examinations –December 2018

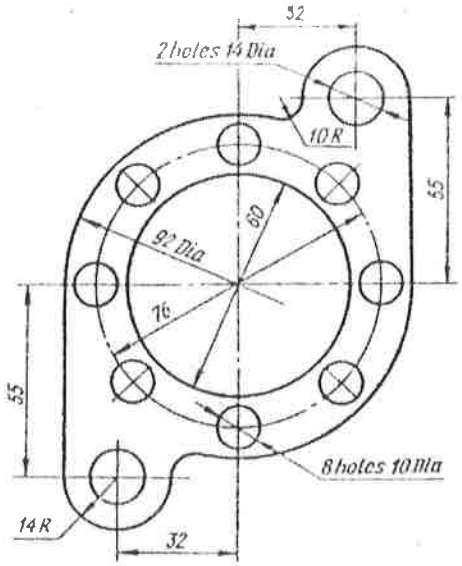
Engineering Graphics

(Electronics & Communication Engineering)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 1 to 5 answer either Part-A or B only

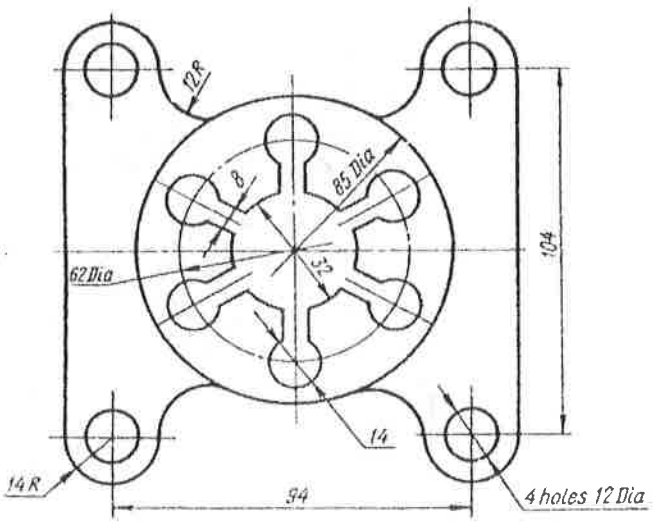
Q.1(A) 12M



Draw the above figure using AutoCAD Commands

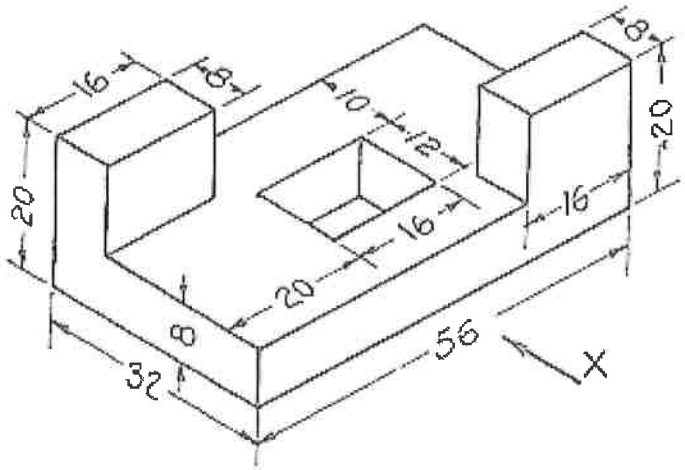
OR

Q.1(B) 12M



Draw the above figure using AutoCAD Commands

Q.2(A)	i) A point A is 10mm below H.P, 20mm behind V.P and 30mm in front of P.P. Draw front view, top view and left side view of the point. ii) A point B is 20mm above H.P, 10mm in front of V.P and 30mm in front of P.P. Draw front view, top view and left side view of the point.	6M 6M
	OR	
Q.2(B)	A line AB 80mm long is inclined 45^0 to HP and 60^0 to VP. One end of the line A is 20mm above HP and 30mm in front of VP. Draw the projections of the line and find its apparent inclinations.	12M
Q.3(A)	Draw the projections of a regular hexagon of 25mm side having one of its sides in the H.P and inclined at 60^0 to V.P and its surface making an angle of 45^0 with H.P.	12M
	OR	
Q.3(B)	A cylinder having diameter 50mm and height 60mm is resting on its circumferential point of base if the axis parallel to VP. Draw projections of solid if the axis makes an angle 45^0 to the ground.	12M
Q.4(A)	A pentagonal pyramid of base side 30 mm and axis length 60mm is resting on H.P on its base with one of its base side parallel to VP. It is cut by a plane inclined at 30° to H.P and perpendicular to VP and is bisecting the axis. Draw its front view and the sectional top view.	12M
	OR	
Q.4(B)	A Hexagonal prism of base side 40mm and height 60mm. Draw the development of the of the lateral surface of the prism.	12M
Q.5(A)	A cylinder 50mm dia.and 70mm axis is completely penetrated by another cyliner of 40 mm dia.and 70 mm axis horizontally Both axes intersect & bisect each other. Draw projections showing curves of intersections.	12M
	OR	
Q.5(B)	Draw the Front view, Top View and Side view for the figure given	12M



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Set - 7

Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18ME101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I & II Semester (R18) Regular End Semester Examinations –December 2018

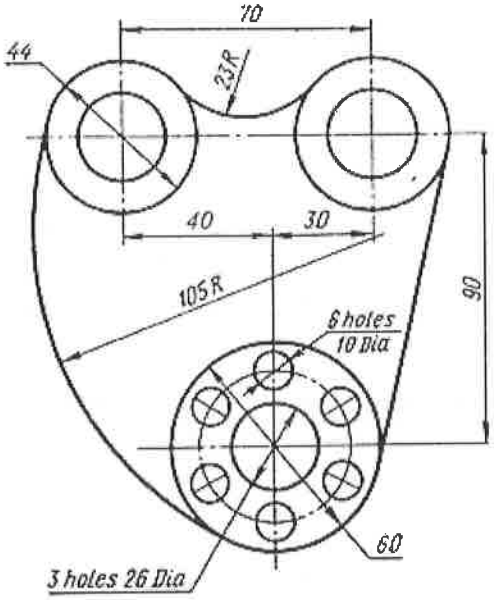
Engineering Graphics

(Electronics & Communication Engineering)

: 3Hrs **Max Marks: 60**

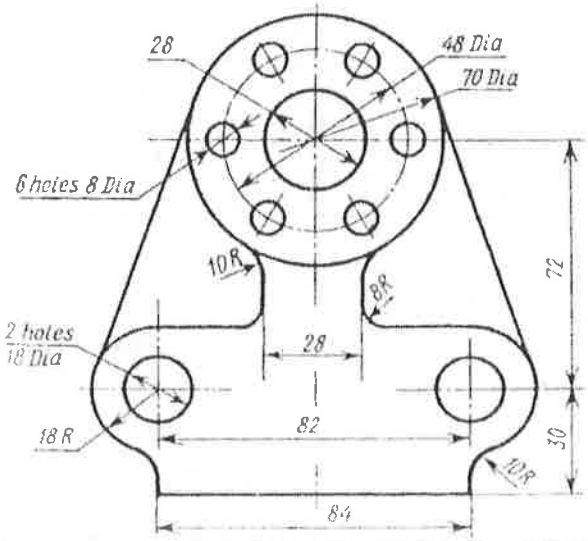
Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 1 to 5 answer either Part-A or B only

Q.1(A) Draw the given figure using AutoCAD commands and dimension it. 12M

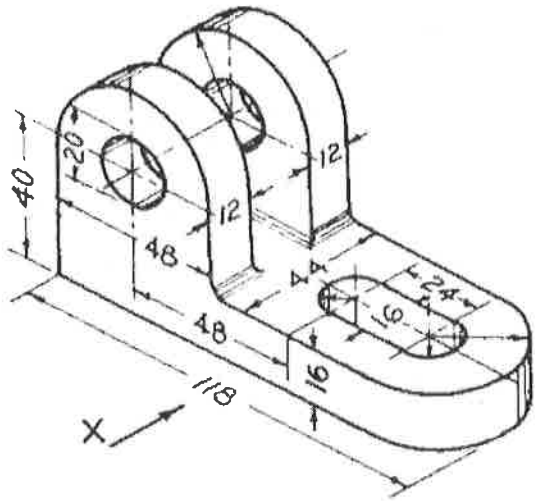


OR

Q.1(B) Draw the given figure using AutoCAD commands and dimension it. 12M



Q.2(A)	i) A point A is 30mm above H.P, 20mm in front of V.P and 15mm in front of P.P. Draw front view, top view and right side view of the point. ii) A point B is 20mm below H.P, 30mm behind V.P and 10mm in front of P.P. Draw front view, top view and right side view of the point.	6M 6M
	OR	
Q.2(B)	A line RS 80mm long is inclined 30^0 to HP and 45^0 to VP. The end R of the line is 20mm above HP and 30mm in front of VP. Draw the projections of the line.	12M
Q.3(A)	Draw the projections of a regular hexagon of 25mm side having one of its corner in the H.P and inclined at 60^0 to V.P and its surface making an angle of 45^0 with H.P.	12M
	OR	
Q.3(B)	A cylinder having diameter 50mm and height 60mm is resting on its circumferential point of base if the axis parallel to VP. Draw projections of solid if the axis makes an angle 45^0 to the ground.	12M
Q.4(A)	A pentagonal pyramid of base side 30 mm and axis length 60mm is resting on H.P on its base with one of its base side parallel to VP. It is cut by a plane inclined at 30° to H.P and perpendicular to VP and is bisecting the axis. Draw its front view, sectional top view.	12M
	OR	
Q.4(B)	A Hexagonal prism having 30mm base edge and 60mm height is standing on its base on the ground with one base edge parallel to VP. It is cut by a plane inclined 60^0 to HP and passing through a point 40mm above the base. Draw the development of lateral surfaces of the cut pyramid.	12M
Q.5(A)	A Vertical square prism base 50mm side, is completely penetrated by a horizontal square prism, base 35mm side, so that their axes intersect. The axis of the horizontal prism is parallel to the V.P., while the faces of the two prisms are equally inclined to the V.P. Draw the projections of the solids, showing lines of intersection. (Assume suitable lengths for the prisms).	12M
	OR	
Q.5(B)	Draw the front view, top view and side view of the figure shown below	12M



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Set - 8

Hall Ticket No: | | | | | | | | | | | Question Paper Code: 18ME101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I & II Semester (R18) Regular End Semester Examinations –December 2018

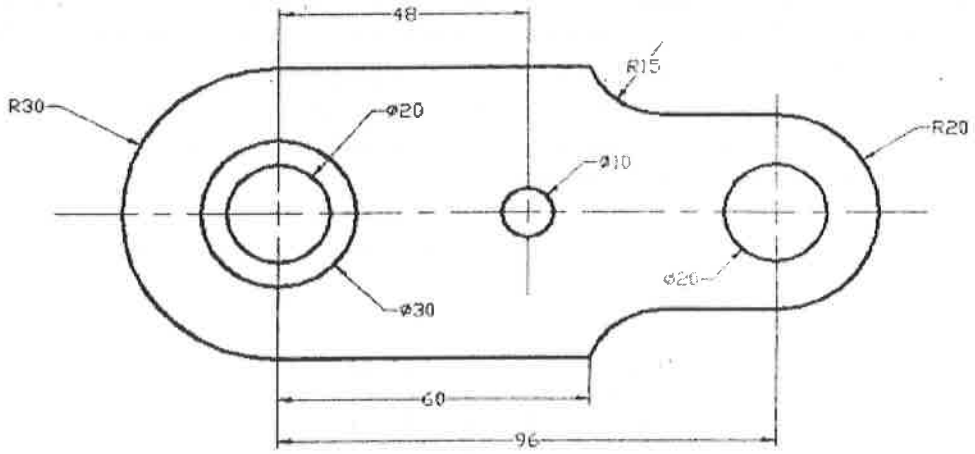
Engineering Graphics

(Electronics & Communication Engineering)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 1 to 5 answer either Part-A or B only

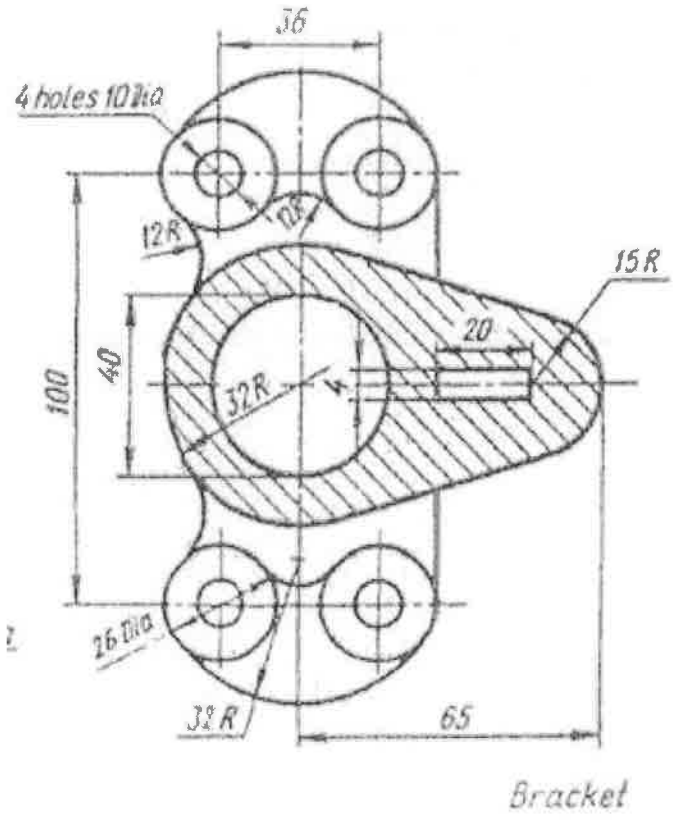
Q.1(A) 12M



Draw the above figure using AutoCAD Commands

OR

Q.1(B) 12M



Draw the above figure using AutoCAD Commads

Q.2(A) Draw the projections of the following points on the same ground line. Name the quadrants. 12M

1. Point G, 20mm in front of the V.P. and 60mm above the H.P.
2. Point F, 35mm below the H.P. and on the V.P.
3. Point N, 15mm below the H.P. and 70mm behind the V.P.
4. Point M, 50mm above the H.P. and 35mm in front of the V.P.

OR

Q.2(B) A line PQ of 80mm long has its end P at 20mm above H.P. and 25mm in front of V.P. Its front view and top view measure 65mm and 70mm respectively. Draw the projections of the line and determine its inclinations with H.P. and V.P. 12M

Q.3(A) A triangular prism having base edge 40mm and height 70mm is resting on one of its base edges on the ground with axis parallel to VP. Draw projections of solid if the axis makes an angle of 40^0 to the ground. 12M

OR

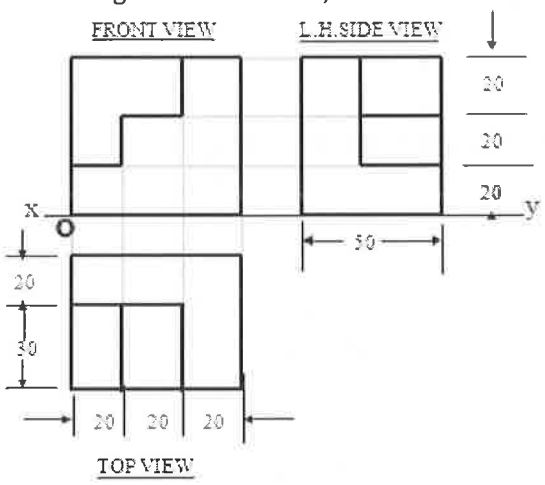
Q.3(B) A pentagonal plate of negligible thickness and having edge length 30mm is resting on one of its sides on VP. The plate is inclined 40^0 to VP and resting side makes an inclination of 50^0 to HP. Draw the projections of the plate. 12M

Q.4(A) A cone of 60mm diameter and 75mm height is resting on its base on HP. It is cut by an AIP parallel to the generated and passing through the mid-point of the axis. Draw a sectional view and obtains true shape of the section. 12M

OR

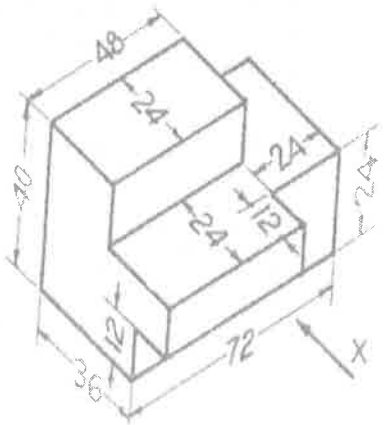
Q.4(B) A Hexagonal prism of base side 40mm and height 60mm. Draw the development of the of the lateral surface of the prism. 12M

Q.5(A) Draw the isometric view of the figure shown below; 12M



OR

Q.5(B) Draw the Front view, Top View and Side view for the figure given 12M



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Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18ME101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I Semester (R18) Regular End Semester Examinations –December 2018

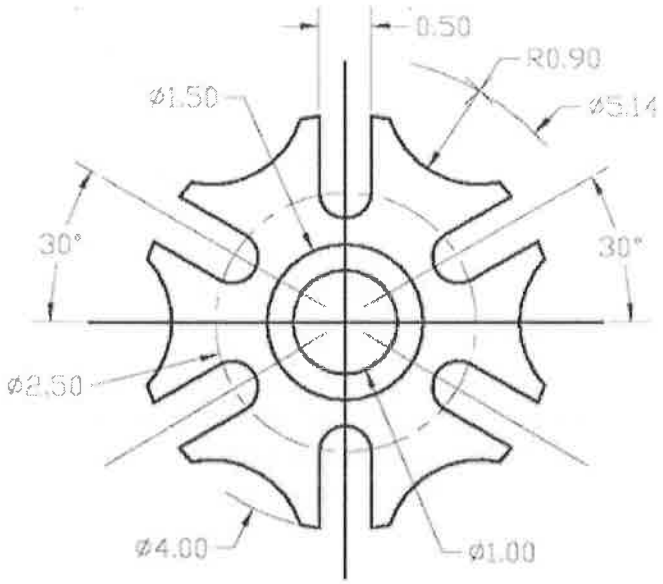
Engineering Graphics

(Electronics & Communications Engineering)

: 3Hrs **Max Marks: 60**

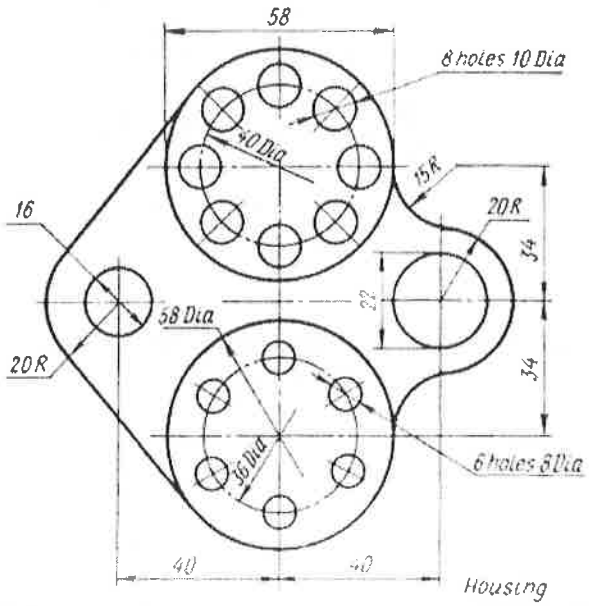
Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 1 to 5 answer either Part-A or B only

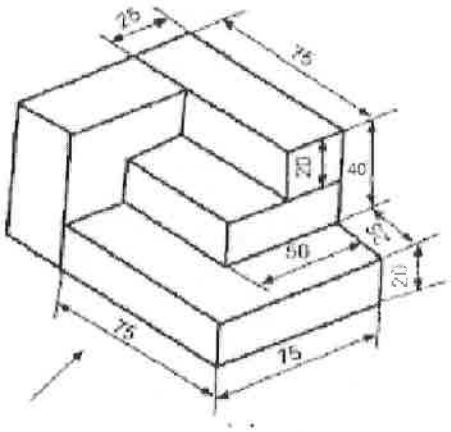
Q.1(A) Draw the given figure using AutoCAD commands and dimension it. 12M



OR

Q.1(B) Draw the given figure using AutoCAD commands and dimension it. 12M



Q.2(A)	i. A point A is 10mm below H.P, 20mm behind V.P and 30mm in front of P.P. Draw front view, top view and left side view of the point. ii. A point B is 20mm above H.P, 10mm in front of V.P and 30mm in front of P.P. Draw front view, top view and left side view of the point.	6M 6M
	OR	
Q.2(B)	A line PQ of 80mm long has its end P at 20mm above H.P. and 25mm in front of V.P. Its front view and top view measure 65mm and 70mm respectively. Draw the projections of the line and determine its inclinations with H.P. and V.P.	12M
Q.3(A)	An equilateral triangle plate of negligible thickness having 40mm edge length is resting on one of its side on HP. The surface makes an inclination of 30^0 to HP and resting side makes an inclination of 60^0 to VP. Draw the projection of the plate.	12M
	OR	
Q.3(B)	A hexagonal pyramid side of base 40 mm and axis 60 mm long rests with one of the corners of its base on H.P. Its axis is inclined at 35^0 to H.P. Draw its projections.	12M
Q.4(A)	A Pentagonal prism base 30mm side and axis 65mm has its base horizontal and an edge of the base parallel to V.P. A horizontal section plane cuts it at a distance of 25mm above the base. Draw its front view and sectional top view.	12M
	OR	
Q.4(B)	A Hexagonal prism of base side 30mm and height 60mm is resting on its base on H.P with one of its rectangular face parallel to VP. Draw the development of the lateral surface of the prism.	12M
Q.5(A)	A cylinder 50mm dia.and 70mm axis is completely penetrated by another cyliner of 30 mm dia.and 60 mm axis horizontally Both axes intersect & bisect each other. Draw projections showing curves of intersections.	12M
	OR	
Q.5(B)	 Draw the front view, top view and side view of the above figure	12M

*** END***

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Hall Ticket No: | | | | | | | | | | |

Question Paper Code: 18ME101

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

B.Tech I Year I Semester (R18) Regular End Semester Examinations –December 2018

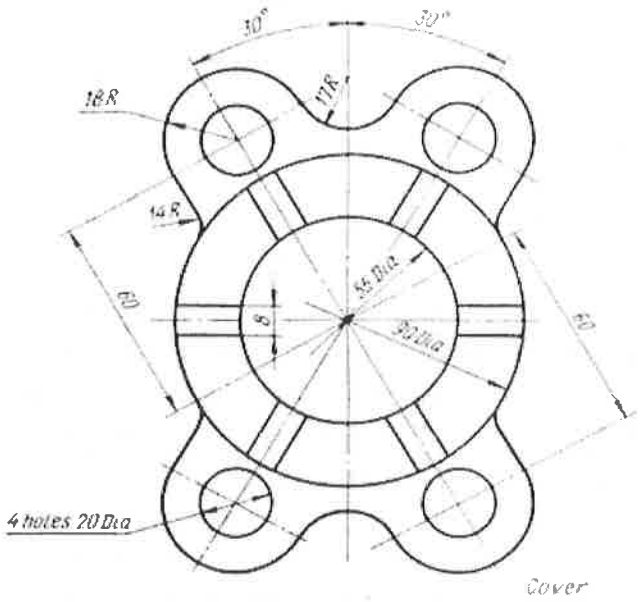
Engineering Graphics

(Electronics & Communications Engineering)

Time: 3Hrs **Max Marks: 60**

Attempt all the questions. All parts of the question must be answered in one place only.
All parts of Q.no 1 are compulsory. In Q.no 1 to 5 answer either Part-A or B only

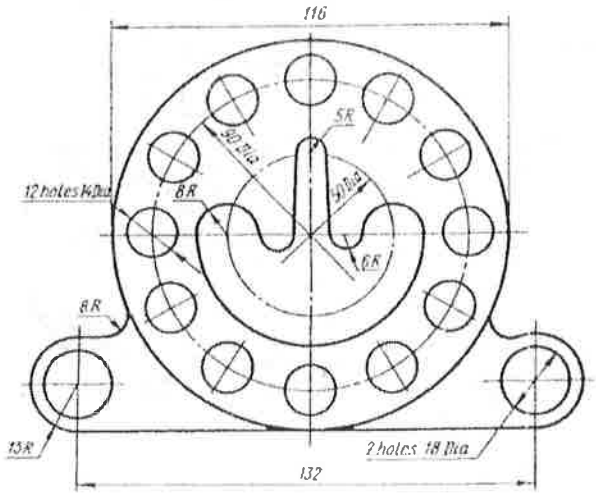
Q.1(A) 12M



Draw the above figure using AutoCAD Commands

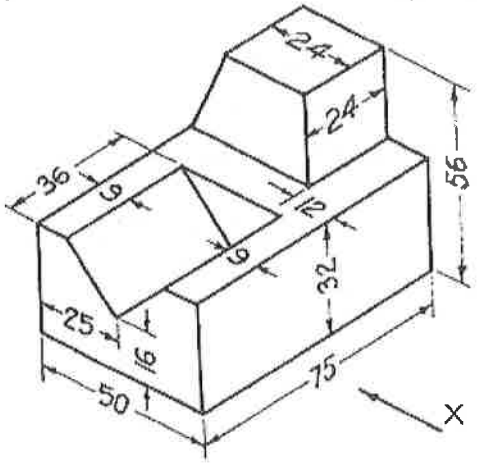
OR

Q.1(B) 12M



Draw the above figure using AutoCAD Commands

Q.2(A)	i. A line AB 35mm long is parallel to V.P and perpendicular to H.P. Point A is 35mm above H.P and 20mm in front of V.P. Point B is 10mm above H.P. Draw the projections. ii. A line CD of 80mm long has its end C at 20mm above H.P. and 15mm in front of V.P. Its front view and top view measures 50mm and 60mm respectively. Draw the projections of the line and determine its inclinations with H.P. and V.P.	6M 6M
	OR	
Q.2(B)	Draw the projections of the following points on the same ground line, keeping the projectors 20mm apart. a. Point E, on V.P. and 60mm above the H.P. b. Point F, 40mm below the H.P. and 60 mm behind the V.P. c. Point G, 45mm above the H.P. and 50 mm behind the V.P. d. Point H, 20mm below the H.P. and 55 mm in front of the V.P.	12M
Q.3(A)	A pentagonal plate of 45mm side has a circular hole of 40mm diameter in its center. The plane stands on one of its sides on the H.P. with its plane perpendicular to V.P. and 450 inclined to H.P. Draw its projections.	12M
	OR	
Q.3(B)	A Hexagonal Pyramid of Base side 30mm and axis 60mm is lying on a slant edge on the H.P with the axis parallel to V.P. Draw its projections.	12M
Q.4(A)	A cone diameter of base 50mm and axis 60mm long is resting on its base on HP. A section plane perpendicular to VP and inclined at 45° to HP cuts the axis at a height of 40mm from the base. Draw the sectional Top view and front view.	12M
	OR	
Q.4(B)	A cylinder of diameter of base 50mm and axis 60mm long is resting on its base on H.P. It is cut by a section plane, perpendicular to V.P and inclined at 40° to H.P. The section plane is passing through the top end of an extreme generator of the cylinder. Draw the development of the lateral surface of the cut cylinder.	12M
Q.5(A)	A Vertical square prism base 50mm side, is completely penetrated by a horizontal square prism, base 35mm side, so that their axes intersect. The axis of the horizontal prism is parallel to the V.P., while the faces of the two prisms are equally inclined to the V.P. Draw the projections of the solids, showing lines of intersection. (Assume suitable lengths for the prisms).	12M
	OR	
Q.5(B)	Draw the Front view, Top View and Side view for the figure given	12M



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