C23-AMG-101-ENGLISH
BLUE PRINT

Weightage Table : C23- AMG-101: English									
S. No.	**Name of the Unit**	**Periods Allocated (Total 90 periods)**	**Weightage of Marks Allocated (Short + Long Answer question)**	**Weightage (Long answer questions) @10 Marks**	**Marks Wise Distribution of Weightage (Short answer questions) @3 Marks**				**CO's Mapped**
					R	**U**	**Ap**	**An**	
1	English for Employability	8	20+9	2	3+3	3			CO1,CO2, CO3, CO4, CO5
2	Living in Harmony	8							CO1, CO2, CO3, CO4, CO5
3	Connect with Care	8				3			CO1, CO2, CO3, CO4, CO5
4	Humour for Happiness	8	20+9	2					CO1, CO2, CO3, CO4, CO5
5	Never Ever Give Up!	8					3		CO1, CO2, CO3, CO4, CO5
6	Preserve or Perish	9							CO1, CO2, CO3, CO4, CO5
7	The Rainbow of Diversity	8					3		CO1, CO2, CO3, CO4, CO5
8	New Challenges - Newer Ideas	8	10+3	1			3		CO1, CO2, CO3, CO4, CO5
9	The End Point First!	8	10+3	1			3		CO1, CO2, CO3, CO4, CO5
10	The Equal Halves	8	10+3	1			3		CO1, CO2, CO3, CO4, CO5
11	Dealing with Disasters	9	10+3	1				3	CO1, CO2, CO3, CO4, CO5
Short Answer Questions			**30**		**6**	**6**	**15**	**3**	
Long Answer Questions			**80**	**8**					

Total	**110**	(Integration of the cognitive skills of Understanding, Applying &Analysing)					

Model Question Paper: End Exam
BTET – I Year End Examinations
C23- AMG -101: ENGLISH

Time: 3 Hrs. **Max.Marks: 80**

PART-A **10X3=30 Marks**

Instructions: Answer all the questions and each question carries 3 marks. Marks will be awarded only for the desired and accurate language / grammatical expressions.

1. A) Fill in the blanks with appropriate articles:
   My father sent me _____ envelope through _____ messenger and _____ cover contained a bank cheque in my favour.
   B) Fill in the blanks with suitable prepositions:
   My mother arranged a beautiful flower vase _____ my study table, just beside my computer,
   _____ which she keeps fresh flowers every day. The vase is made _____ ceramic.
2. A) Give synonyms for the words: i) depressed ii) caricature
   B) Give antonyms for the words: i) natural ii) visible
   C) Add affixes to the words: i) prefer ii) proper
3. A) Fill in the blanks with suitable Primary Helping Verbs (Be/ do/ have forms):
   i) All the books _____ already been sold out.
   Ii) She paid condonation fees as she_____ not attend the classes regularly last semester.
   iii) Why _____ you not giving me reply?
   B) Fill in the blanks with suitable Modal verbs based on the clue given in brackets.
   i) Pratap is an ambidextrous; he _____ write with his two hands. (ability)
   ii) Jyothsna _____ pay the tuition fees by tomorrow. (obligation)
   iii) My grandfather _____ to ride a horse in his youth. (Past habit)
4. Fill in the blanks with suitable verb form using the base form given in the brackets.
   i) Suma_____ (bring) a pup to the class yesterday.
   ii) Johnny _____(play) the piano in a music band every weekend.
   iii) Girija _____ (watch) a movie on TV when I visited her last Sunday.
5. Change the voice of the following:
   i) My elder brother paid my exam fees yesterday. ii) These two chapters will be taught in next month.
   iii) They are constructing a new house.
6. i) Pacific is _____(big) ocean of all. (Fill in with appropriate degree of the adjective given in the bracket)
   ii) No other food item is as nutritious as honey. (Change into Comparative degree)
   iii) Bangalore is one of the beautiful cities of India. (Change into Positive degree)
7. i) You need two thousand rupees to buy a new pair of shoes. Write a polite expression asking your father for money.

ii) Radhika has been invited for the wedding. (Convert into a negative sentence)

iii) Our pet pigeons flew away last night. (Convert into a negative sentence)

8. i) Ramesh can't reach on time _____ he travels by a superfast train. (Fill in with suitable conjunction)

   ii) Though the long bell was given, the children stayed in the classroom. (Change into a simple sentence)

   iii) Get a ticket on a sleeper coach, and then you can sleep during journey. (Change into a complex sentence)

9. i) Tarun said, " Prathima, I shall return your notes tomorrow". (change into a reported speech)

   ii) Arjun requested his sister Priya not to disturb him while he was studying. (change into a direct speech)

   iii) Teacher said, "Students, why are you talking in the class?" (change into a reported speech)

10. Correct the following sentences:

    i) These flowers are smelling sweet. ii) Either the father or his children has arrived home early.

    iii) Every bike rider should abide to the traffic rules.

PART-B

10X5=50Marks

Instructions: a) Answer any FIVE questions and each question carries TEN marks.

b) The criterion for the award of marks is the appropriate content, quality and clarity of expression but not the length of your answer.

11. Write a paragraph in 120 words about the problems you are experiencing in speaking English and your own solutions to overcome them.
12. Write a set of instructions to create a word file and insert a Table using MS office on a computer.
13. Write a dialogue in at least eight turns between a sales person and you at a readymade garment showroom as you want to buy a readymade dress.
14. Write an essay in about 175 words on valuing opposite gender and show mutual respect.
15. Write a letter to the Municipal Commissioner about the menace of street dogs in your area.
16. Imagine that your class had visited an industry / organisation relevant to your branch of Engineering; write a report about the visit to submit to your HOD.
17. a) Write an E-mail to your cousin requesting him/her to send you the diploma study material by a courier or post.

    b) Frame THREE 'wh' questions & TWO 'Yes-No' questions from the following passage.

    Dolphins are intelligent animals. A dolphin's nose is on top of its head. So, it can easily breathe on the surface of the water. The skin of a dolphin has no scales. It is soft and smooth. They swim in 'pods'; a very large pod is called a 'herd'. They are very social and help each other fight off predators. Dolphins brain has two sides. One side sleeps while the other side stays awake.

18. Read the following passage and answer the questions that follow. Your answer should be accurate, precise and limited to a word or phrase or a simple sentence.

    The Indian Army is the land-based branch and the largest component of the Indian Armed Forces. The President of India is the Supreme Commander of the Indian Army, and it is commanded by the Chief of Army Staff (COAS), who is a four-star general. The primary mission of the Indian Army is to ensure national security and national unity, defending the nation from external aggression and internal threats, and maintaining peace and security within its borders. It conducts humanitarian rescue operations during natural calamities and other disturbances, like Operation Surya Hope, and can also be requisitioned by the government to cope with internal threats. It is a major component of national power alongside the Indian Navy and the Indian Air Force. The army has been involved in four wars with neighbouring Pakistan and one

with China. Other major operations undertaken by the army include: Operation Vijay, Operation Meghdoot and Operation Cactus.

a) What is the largest component of Indian Armed Forces?
b) Who is the four-star general?
c) "Maintaining internal peace and security is not one of the responsibilities of Indian Army". Is the statement True or False ?
d) What is the primary mission of the Indian Army?
e) Name the operation held by the Indian Army during natural disaster.
f) What are the other two forces mentioned in the passage?
g) If you were to join Armed forces, which wing do you prefer? State your reason in a sentence.
h) Pick the word from the passage that would mean: 'forcefulness or violent behavior'
i) Give the antonym for the word: 'internal'
j) Suggest a suitable title for the passage in a word or phrase.

C-23 - Engineering Mathematics – I (AMG-102)

Blue print

S.No.	Chapter/Unit title	No. of Periods	Weightage Allotted	Short type			Essay type			COs mapped
				R	U	Ap	R	U	Ap	
	Unit - I : Algebra									
1	Functions	5	3	1	0	0	0	0	0	CO1
2	Partial Fractions	6	3	1	0	0	0	0	0	CO1
3	Matrices and Determinants	20	16	2	0	0	0	0	1	CO1
	Unit - II : Trigonometry									
4	Trigonometric Ratios	2	0	0	0	0	0	0	0	CO2
5	Compound Angles	5	3	1	0	0	0	0	0	CO2
6	Multiple and Submultiple angles	8	3	1	0	0	0	0	0	CO2
7	Transformations	6	5	0	0	0	0	1/2	0	CO2
8	Inverse Trigonometric Functions	6	5	0	0	0	0	1/2	0	CO2
9	Trigonometric Equations	6	5	0	0	0	0	1/2	0	CO2
10	Properties of triangles	5	5	0	0	0	0	0	1/2	CO2
11	Complex Numbers	6	3	1	0	0	0	0	0	CO2
	Unit III : Co-ordinate Geometry									
12	Straight Lines	5	3	1	0	0	0	0	0	CO3

13	Circles	6	5	0	0	0	0	1/2	0	CO3
14	Conic Sections	12	5	0	0	0	0	1/2	0	CO3
	Unit – IV : Differential Calculus									
15	Limits and Continuity	6	3	0	1	0	0	0	0	CO4
16	Differentiation	28	23	1	0	0	1	1	0	CO4
	Unit – V : Applications of Derivatives									
17	Geometrical Applications	4	5	0	0	0	0	0	1/2	CO5
18	Physical Applications	6	5	0	0	0	0	0	1/2	CO5
19	Maxima and Minima	4	5	0	0	0	0	0	1/2	CO5
20	Errors and Approximations	4	5	0	0	0	0	0	1/2	CO5
Total		150	110	9	1	0	1	3 1/2	3 1/2	
Marks				27	3	0	10	35	35	

R: Remembering Type : 37 Marks
U: understanding Type : 38 Marks
Ap: Application Type : 35 Marks

C –23, Common -102
Unit Test I
State Board of Technical Education and Training, A. P.
First Year
Subject name: Engineering Mathematics-I
Sub Code: Common-102

Time: 90 minutes **Max.marks:40**

Part-A **16Marks**

Instructions: **(1) Answer all questions.**
(2) First question carries four marks and the remaining questions carry Three marks each.

1. Answer the following:

   a. If $X=\{1,2,3,4\}$ and $Y=\{1,4,9,16,25\}$, then $f: X \to Y$ defined by

   $f=\{(1,1),(2,4),(3,9),(4,16)\}$ is a function: State TRUE/FALSE. (CO1)

   b. If $A=\begin{bmatrix}1 & 2\\ 3 & 4\end{bmatrix}$, then 3A =_____. (CO1)

c. The value of $\sin 45° + \cos 45^o$ is _____. (CO2)

d. The formula for $\tan 2A$ in terms of $\tan A$ is _____. (CO2)

2. If $A = \begin{bmatrix} 1 & 3 \\ 4 & -9 \end{bmatrix}$, $B = \begin{bmatrix} 2 & 4 \\ -3 & 1 \end{bmatrix}$ then find $A + B$.

(CO1)

3. Find the determinant of $\begin{bmatrix} 2 & -1 & 4 \\ 0 & -2 & 5 \\ -3 & 1 & 3 \end{bmatrix}$. (CO1)

4. Find the value of $\sin 75^0$. (CO2)

5. Prove that $\frac{\sin 2A}{1 - \cos 2A} = \cot A$ (CO2)

Part-B **3×8=24**

Instructions: **(1) Answer all questions.**
(2) Each question carries eight marks
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

6. A) Resolve $\frac{2x}{(x-1)(x-3)}$ into partial fractions. (CO1)

or

B) Resolve $\frac{x-4}{(x-2)(x-3)}$ into partial fractions. (CO1)

7. A) If $A=\begin{bmatrix} 2 & 3 & 4 \\ 5 & 7 & 9 \\ -2 & 1 & 3 \end{bmatrix}$ and $B=\begin{bmatrix} 3 & 1 & -5 \\ 2 & 1 & 4 \\ 0 & 3 & 1 \end{bmatrix}$, then find AB

(CO1)

Or

B) If $P=\begin{bmatrix} 3 & 1 & 4 \\ 1 & -2 & 0 \\ 3 & 1 & 6 \end{bmatrix}$ and $Q=\begin{bmatrix} 1 & 5 & -3 \\ 0 & 6 & 9 \\ -2 & 7 & 8 \end{bmatrix}$, show that $\left(P+Q\right)^T=P^T+Q^T$.

(CO1)

8. A) Find the adjoint of the matrix $\begin{bmatrix} 1 & 2 & -2 \\ -1 & 3 & 5 \\ 2 & 7 & -4 \end{bmatrix}$ (CO1)

or

B) Solve the following system of linear equations by Cramer's rule:
$x-y+z=2, 2x+3y-4z=-4, 3x+y+z=8$ (CO1)

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C –23, Common -102

Unit Test II

State Board of Technical Education and Training, A. P.First Year

Subject name: Engineering Mathematics-I

Sub Code: Common- 102

Time: 90 minutes **Max.marks:40**

Part-A **16Marks**

Instructions: **(1) Answer all questions.**
(2) First question carries four marks and the remaining questions carry three marks each

1. Answer the following.

   a. $\sin C+\sin D=2\cos\left(\frac{C+D}{2}\right)\sin\left(\frac{C-D}{2}\right)$: State TRUE/FALSE (CO2)

   b. If $\sin^{-1}\left(\frac{3}{5}\right)=\tan^{-1}(\mathrm{x})$, then $x=$ _____. (CO2)

   c. If $z=2+3i$, then $|z|$=_____. (CO2)

   d. The eccentricity of the rectangular hyperbola is _____. (CO3)

2. Express $(3-4i)(7+2i)$ in terms of $a+ib$ (CO2)

3. Find the intercepts made by the straight line $x+5y-10=0$. (CO3)

4. Find the centre and radius of the circle $x^2+y^2-2x+4y-4=0$ (CO3)

5. Find the vertex and focus of the parabola $y^2=8x$. (CO3)

Part-B **3×8=24**

Instructions: **(1) Answer all questions.**
(2) Each question carries eight marks
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

6. A) Prove that $\frac{sin5\theta+sin\theta}{cos5\theta+cos\theta}=tan3\theta$. (CO2)

   or

   B) Prove that $tan^{-1}\left(\frac{1}{4}\right)+tan^{-1}\left(\frac{3}{5}\right)=\frac{\pi}{4}$ (CO2)

7. A) Solve $2\sin^2\theta-\sin\theta-1=0$ (CO2)

   or

B) If a =3, b=4, c=5, find the area of the ΔABC. (CO2)

8. A) Find the equation of the line passing through $(1,1)$ and perpendicular to the line $2x + 3y - 1 = 0$. Also find the perpendicular distance from the given point to the given line. (CO3)

or

B) Find the equation of the ellipse whose focus is (2, 0), directrix is x+y-1= 0 and eccentricity is ½. (CO3)

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C –23, Common -102

Unit Test III

State Board of Technical Education and Training, A. P
First Year
Subject name: Engineering Mathematics-I
Sub Code: Common-102

Time: 90 minutes **Max.Marks:40**

Part-A **16 Marks**

Instructions: **(1) Answer all questions.**
(2) First question carries four marks and the remaining questions carry three marks each.

1. Answer the following:

   a. $\lim_{x\to 1}\frac{x^2+1}{x+5}=\frac{1}{3}$: State TRUE/FALSE. (CO4)

   b. For any constant n, $\frac{d}{dx}(x^n)$ =_____ (CO4)

   c. $\frac{d}{dx}\left(3\tan^{-1}x\right)=?$ (CO4)

   d. Write the formula for finding the percentage error in x. (CO5)

2. Evaluate $\lim_{\theta\to 0}\frac{sin2\theta}{\theta}$ (CO4)

3. Find the derivative of $3\tan x+4\log x$ w.r.t. x. (CO4)

4. Differentiate $x^2\sin x$ w.r.t. x. (CO4)

5. Find the slope of the tangent to the curve $y=x^3-3x+2$ at the point $(1,7)$. (CO5)

Part-B **3×8=24**

Instructions: **(1) Answer all questions.**
(2) Each question carries eight marks
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

6. A) if $x=at^2$ and $y=2at$ then find $\frac{dy}{dx}$ (CO4)

   or

   B) Find $\frac{dy}{dx}$, if $y=x^x$ (CO4)

7. A) If $y = ae^{x} + be^{-x}$, then prove that $\frac{d^2y}{dx^2} - y = 0.$ (CO4)

or

B) If $u(x, y) = \log(x + y)$, then find $\frac{\partial u}{\partial x}$ and $\frac{\partial u}{\partial y}$ (CO4)

8. A) The radius of a sphere is decreasing at a rate of 0.2 cm/sec. How fast is its surface area decreasing when the radius is 10 cm. (CO5)

or

B) Find the maximum and minimum values of the function $f(x) = x^3 - 3x$. (CO5)

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END-EXAM MODEL PAPERS

STATE BOARD OF TECHNICAL EDUCATION, A.P

C-23 ENGINEERING MATHEMATICS-I, Common- 102

TIME: 3 HOURS **MODEL PAPER- I** **MAX.MARKS: 80M**

PART-A

Answer All questions. Each question carries THREE marks. 10x3=30M

1. If $A=\left\{0,\frac{\pi}{4},\frac{\pi}{2}\right\}$ and $f:A\to B$ is a function defined by $f(x)=\cos x$, then find the range of f. (CO1)

2. Resolve the function $\frac{x}{(x-1)(x-2)}$ into partial fractions. (CO1)

3. If $\mathrm{A}=\begin{bmatrix}3 & 9 & 0\\ 1 & 8 & -2\end{bmatrix}$ and $\mathrm{B}=\begin{bmatrix}4 & 0 & 2\\ 7 & 1 & 4\end{bmatrix}$, find A+B (CO1)

4. Find the determinant of the matrix $\begin{bmatrix}2 & -1 & 4\\ 0 & -2 & 5\\ -3 & 1 & 3\end{bmatrix}$ by Laplace's expansion. (CO1)

5. Show that $\frac{\cos 16^0+\sin 16^0}{\cos 16^0-\sin 16^0}=\tan 61^0.$ (CO2)

6. Prove that $\frac{\sin 2\theta}{1-\cos 2\theta}=\cot\theta.$ (CO2)

7. Find the modulus of the complex number $3+4i.$ (CO2)

8. Find the distance between the parallel lines $4x-3y+9=0$ and $4x-3y+5=0.$ (CO3)

9. Evaluate $\lim_{x\to 0}\frac{\sin 77x}{\sin 11x}.$ (CO4)

10. Find $\frac{dy}{dx}$, if $y=x^4+1$ (CO4)

PART-B

Answer any FIVE questions. Each question carries TEN marks. 5x10=50M

11. Solve the system of linear equations $x+y+z=6,\ x-y+z=2$ and $2x+y-z=1$ using matrix inversion method. (CO1)

12. A) Show that $\frac{sin7\theta+sin5}{cos7\theta+cos5\theta}=tan6\theta.$ (CO2)

    B) Prove that $tan^{-1}\left(\frac{1}{7}\right)+tan^{-1}\left(\frac{1}{13}\right)=tan^{-1}\left(\frac{2}{9}\right)$ (CO2)

13. A) Solve $(2\sin x - 1)(\tan x - \sqrt{3}) = 0.$ (CO2)

B) If a =10, b=12, c =5, then find the area of the ΔABC. (CO2)

14. A) Find the equation of the circle with (4, 2) and (1, 5) as the two ends of its diameter. (CO3)

B) Find the equation of the conic whose focus is (1,0), directrix is 3x+4y+1=0 and eccentricity is 2. (CO3)

15. A) Find the derivative of $3tanx - 4logx - 7e^x + \sin^{-1} x$ w.r.t *x.* (CO4)

B) Find the derivative of x^2e^{3x} w.r.t *x.* (CO4)

16. A) If $x = a(1-\cos\theta), y = a(\theta + \sin\theta)$, then find $\frac{dy}{dx}$. (CO4)

B) If $u(x, y) = x^2y + y^2x$, then find $\frac{\partial u}{\partial x}$ and $\frac{\partial u}{\partial y}$ (CO4)

17. A) Find the equation of tangent to the curve $y = x^2 + 1$ at (2,1). (CO5)

B) If the radius of a circular plate is increasing at 0.7 cm/sec, find the rate of increase in its area when the radius is 10 cm. (CO5)

18. A) Find maximum or minimum value of $f(x) = x^2 - 4x + 3$. (CO5)

B) If an error of 0.02 cm is made in the side of a square, what is the approximate error in the area and perimeter of the square? (CO5)

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TIME: 3 HOURS **MODEL PAPER- II** **MAX.MARKS: 80M**

PART-A

Answer All questions. Each question carries THREE marks. **10x3=30M**

1. If A={-1, 0, 1} and $f: A \to B$is defined by $f(x) = x^2 - x + 1$, then find the range of *f*. (CO1)

2. Resolve the function $\frac{1}{(x+1)(x-2)}$ into partial fractions. (CO1)

3. If A = $\begin{bmatrix} 3 & 9 & 0 \\ 1 & 8 & -2 \end{bmatrix}$and B= $\begin{bmatrix} 4 & 0 & 2 \\ 7 & 1 & 4 \end{bmatrix}$, then find $(A+B)^T$. (CO1)

4. If A= $\begin{bmatrix} 4 & 2 \\ -1 & 1 \end{bmatrix}$, then find A^2. (CO1)

5. Find the value of $\frac{cos36^0+sin3^0}{cos36^0-sin36^0} = tan\ 81^0$. (CO2)

6. Prove that $\frac{1+cos}{sin2\theta} = cot\theta$. (CO2)

7. Find the modulus of the complex number 3+2*i*. (CO2)

8. Find the point of intersection of the non-parallel lines $x + y + 1 = 0$ and $2x - y + 5 = 0$. (CO3)

9. Evaluate $\lim_{x \to 3} \frac{x^3 - 27}{x - 3}$ (CO4)

10. Find $\frac{dy}{dx}$, if $y = x^3 + 5x$. (CO4)

PART-B

Answer any FIVE questions. Each question carries TEN marks. **5x10=50M**

11. Solve the system of linear equations $x - y + 3z = 5,\ 4x + 2y - z = 0$ and $-x + 3y + z = 5$ using Cramer's rule. (CO1)

12 A) Show that $cos40^0 + cos80^0 + cos160^0 = 0$. (CO2)

B) Prove that $tan^{-1}\left(\frac{1}{4}\right) + tan^{-1}\left(\frac{3}{5}\right) = \frac{\pi}{4}$ (CO2)

13. A) Solve $2\cos^2\theta - 3\cos\theta + 1 = 0$. (CO2)

B) If a =5, b=7, C =30°, then find the area of the ΔABC. (CO2)

14. A) Find the equation of the circle passing through the points (0, 0), (2, 0), and (0, 3) (CO3)

B) Find the vertex, focus, directrix and latus rectum of the parabola $y^2 = 16x$. (CO3)

15. A) Find the derivative of $3\sin x + log\ x + 2\tan^{-1} x + 8e^{-x}$ w.r.t.*x.* (CO4)

B) Find the derivative of $\frac{1-x^2}{1+x^2}$ w.r.t. x. (CO4)

16. A) If $y = x^{\sin x}$, then find $\frac{dy}{dx}$. (CO4)

B) If $y = \tan^{-1} x,$ then prove that $\left(1+x^2\right)\frac{d^2y}{dx^2} + 2x\frac{dy}{dx} = 0.$ (CO4)

17. A) Find the equation of tangent to the curve $y = x^3 - 2x^2 + 4$ at (2,4). (CO5)

B) If $s(t) = t^2 + 2t + 3$ is the displacement of a particle, find its velocity and acceleration at the time t=3 sec. (CO5)

18. A) Find maximum or minimum value of $f(x) = 3 + 10x - 5x^2$. (CO5)

B) If an error of 0.02 cm is made in the side of a square, then what is the percentage error in the calculated value of its area? (CO5)

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ENGINEERING PHYSICS AMG-103

Blue Print for setting question paper at different levels

S.No	Major Topics	Weightage of Marks	Short Answer Type(Marks)			Essay Type(Marks)		
			R	U	A	R	U	A
1	Units and measurements	03	0	0	3	0	0	0
2	Statics	13	0	0	3	0	10	0

3	Gravitation	20	0	0	0	10	10	0
4	Concepts of energy	13	0	0	3	0	10	0
5	Thermal physics	13	0	3	0	0	0	10
6	Sound	16	0	3	3	0	10	0
7	Electricity & magnetism	16	0	3	3	0	10	0
8	Modern Physics	16	3	0	3	0	0	10
	Total:	110	3	9	18	10	50	20

(C–23) AMG - 103

UNIT TEST - I, FIRST YEAR ENGINEERING PHYSICS

Time **: 90 Minutes** ***Total Marks*** **: 40**

PART—A **16 Marks**

Instructions **: (i) Answer all questions.**

(II) Question 1 carries 4 marks. Question numbers from (2) to (5) carries 3 marks each.

1. (i) Which among the following is a fundamental quantity.
   (a) Force (b) Momentum (c) Time (d) Density (CO1)
   (ii) Pascal is the S.I unit of pressure. (True / False) (CO1)
   (iii) Displacement is vector quantity (Yes / No) (CO1)
   (iv) The formula for orbital velocity is _____ (Fill in the blank) (CO2)

2. Define absolute, relative errors and percentage errors. (CO1)

3. Define equal vectors, unit vector and co-initial vectors. (CO1)

4. A force of 100 N acts at a point at an angle of 60° to the horizontal. Find the horizontal and vertical components of force. (CO1)

5. Define natural and artificial satellites. Give one example each. (CO2)

PART— B **24 Marks**

Instructions **: (i) Answer *all* questions.**

(ii) Each question carries 8 marks with internal choice.

6. (a) Define concurrent and co-planar forces. Explain Lami's theorem. (CO1)
   (OR)
   (b)Two forces 20 N and 30 N acts at a point an angle of 60°between them. Find the magnitude and direction of the resultant. (CO1)

7. (a) State and explain Kepler's laws of planetary motion. (CO2)
   (OR)
   (b) Define acceleration due to gravity (g). Write the factors affecting the value of g. (CO2)

8. (a) Write a brief note on polar and geo-stationary satellites. (CO2)
   (OR)
   (b) State the Newton's universal law of gravitation and derive the relationship between g and G. (CO2)

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(C–23) AMG -103

UNIT TEST - II, FIRST YEAR

ENGINEERING PHYSICS

***Time* : 90 Minutes** ***Total Marks* : 40**

PART — A ***16 Marks***

Instructions : (i) Answer all questions.

(ii) Question 1 carries 4 marks. Question numbers from (2) to (5) carries 3 marks each.

1 (i) Which among the following is unit of Work.

(a) newton (b) pascal (c) joule (d) watt (CO2)

(ii) In Boyle's law verification, temperature remains constant. (Yes/No) (CO3)

(iii) Velocity of sound in a medium varies with temperature (Yes/No) (CO3)

(iv) The S.I unit of intensity of sound _____ (Fill in the blank) (CO3)

2 Define potential energy, give one example. (CO2)

3 Explain the absolute scale of temperature. (CO3)

4 An ideal gas of given mass at temperature 100 °C occupies a volume of 240 CC at constant pressure. Find its volume at 150 °C. (CO3)

5. Write any three differences between musical sound and noise. (CO3)

PART—B ***24 Marks***

Instructions : (i) Answer all questions.

(ii) Each question carries 8 marks with internal choice.

6. (a) Write about solar energy and solar thermal conversion. (CO2)

(OR)

(b). Define kinetic energy and derive the relationship between KE and momentum. (CO2)

7. (a) Write ideal gas equation and calculate the value of R for 1 gram mole of a gas. (CO3)

(OR)

(b) Define conduction, convection and radiation. Explain with one example each. (CO3)

8. (a) Write four methods of reducing an echo and four applications of echo. (CO3)

(OR)

(b) What are ultrasonics. Mention six applications of it. (CO3)

***

(C–23) AMG-103

UNIT TEST - III, FIRST YEAR
ENGINEERING PHYSICS

***Time* : 90 Minutes** ***Total Marks* : 40**

PART—A ***16 Marks***

Instructions : (i)Answer all questions.
(ii) Question 1 carries 4 marks. Question numbers from (2) to (5) carries 3 marks each.

1. (i) The S.I unit of specific resistance is

   (a) Ω (b) Ω /m (c) Ω - m (d) pascal (CO4)

   (ii) Magnetic field lines are open curves. (True/False) CO4)

   (iii) At the critical angle, the angle of refraction is equal to 90°. (Yes/No) (CO4)

   (iv) Photo electric cell converts ____ energy into electric energy (Fill in the blank) (CO4)

2. Find the current passing through a conductor of resistance 2 Ω when P.D of 50 V is applied across it. (CO4)

3. State the Coulomb's inverse square law of magnetism and write the equation for it. (CO4)

4. State three laws of photo electric effect. (CO4)

5. Write any three applications of superconductors. (CO4)

PART—B ***24 Marks***

Instructions : (i) Answer all questions.
(ii) Each question carries 8 marks with internal choice.

6. (a) State and explain Kirchoff's laws. (CO4)

   OR

   (b) Draw circuit diagram of Meter bridge. Two resistors of 10 Ω and 30 Ω are connected in the left and right gaps of a meter bridge. Find the balancing length. (CO4)

7. (a) Define para, ferro and dia magnetic materials with two examples each. (CO4)

   OR

   (b) Explain the principle and working of an optical fiber. (CO4)

8. (a) Explain intrinsic and extrinsic semiconductors. (CO4)

   OR

   (b) Explain conductors, semiconductors and insulators based on energy gap. (CO4)

***

AMG–103

BOARD DIPLOMA EXAMINATION, (C–23)

FIRST YEAR EXAMINATION

ENGINEERING PHYSICS

Time : 3 hours **Total Marks : 80**

PART— A ***3 ×10 = 30***

Instructions : (i) Answer all questions.

(ii) Each question carries three marks.

(iii) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Write any three advantages of S.I units. (CO1)
2. Define moment of force. Write its SI unit. (CO1)
3. Find the work done in lifting a body of mass 10 kg through a height of 20 m against gravity. (CO2)
4. Define absolute zero temperature. Convert -10 °C into Kelvin temperature. (CO3)
5. Define Doppler effect. Mention one application. (CO3)
6. Write the Sabine's formula for reverberation time and name the quantities in it. (CO3)
7. Define specific resistance. Write its S.I unit. (CO4)
8. Write any three characteristics of magnetic lines of force. (CO4)
9. Draw a neat diagram of photoelectric cell and name the parts. (CO4)
10. Write any three applications of optical fibers. (CO4)

PART—B ***10×5=50***

Instructions : (i) Answer any five questions.

(ii) Each question carries ten marks.

(iii) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. (a) State and explain triangle law of vectors. 6

    (b) A force of 100 N acts on a particle at an angle of 30° to the horizontal. Find the horizontal and vertical components of force. 4 (CO1)

12. State and explain Kepler's law of planetary motion. 10 (CO2)

13. (a) Derive the relationship between g and G.

    (b) Calculate the orbital velocity of a satellite so that it revolves around the earth if the Radius of earth = 6.5 × 106 m, mass of earth = 6×1024 kg and Gravitational constant G = 6.67 × 10-

11 Nm^2/kg^2. 5+5 (CO2)

14. Explain the principles of solar thermal conversion and photo-voltaic effect. 5+5 (CO2)

15. (a) Derive the ideal gas equation.
    (b) Volume of a gas at 27 °C is 100 CC. Keeping the pressure constant, find its volume at a temperature of 50 °C. 7+3 (CO3)

16. (a) Write any five methods of reducing noise pollution.
    (b) Define echo. Write three applications of it. 5+2+3 (CO3)

17. (a) Derive an expression for balancing condition of Wheat stone's bridge with neat circuit diagram.
    (b) The values of resistance of P, Q, R are 50 Ω, 10 Ω and 15 Ω respectively in the balanced condition of the bridge. Find the unknown resistance S. 7+3 (CO4)

18. Explain n-type and p-type semiconductors. 5+5 (CO4)

***

ENGINEERINGCHEMISTRY AND ENVIRONMENTAL STUDIES

AMG-104

Model Blue Print with Weightage for Blooms category and questions for each chapter and COs mapped

S.No	Unit Title/Chapter	No of Periods	Weightage of marks	Marks wise distribution of Weightage				Question wise distribution of Weightage				Mapped with CO
				R	U	Ap	An	R	U	Ap	An	
1	Fundamentals of Chemistry	14	21	15*	3	3	-	1½*	1	1	-	CO1
2	Solutions, Acids and Bases	16	21	8*	10	0	3	1½*	1	-	1	CO1
3	Electrochemistry	12	13	-	10	3	-	-	1	1	--	CO2
4	Corrosion	8	13	3	10	0	-	1	1	-	-	CO2
5	Water Treatment	8	13	10	0	0	3	1	-	-	1	CO3
6	Polymers & Engineering Materials.	12	13	-	10	3	-	-	1	1	-	CO4
7	Fuels	6	3	-	0	3	-	-	-	1	-	CO4
8	Environmental Studies	14	13	-	13	0	-	-	2	-	-	CO5
Total		90	110	36	56	12	6	5	7	4	2	

***One question of 10 marks should be given with 50% weightage from unit title 1and 2**

Model question paper for Unit Test with COs mapped

UNIT TEST –I

Model Question Paper (C-23)

ENGINEERING CHEMISTRY & ENVIRONMENTAL STUDIES (104)

TIME: 90 minutes **Total Marks: 40**

PART-A

16 Marks

Instructions: (1) Answer all questions.

(2) First question carries 4 marks and each of rest carries 3 marks.

(3) Answers for Q.No. 2 to 5 should be brief and straight to the point and shall not exceed five simple sentences.

1. a. Number electrons present in Na^+ ion is ---------- (CO1)

   b. The molarity and normality of NaOH is the same (True or False) (CO1)

   c. Acid with pH 6 is stronger than Acid pH 4 (True or False) (CO1)

   d. 2s is spherical shaped orbital but 3p is ---------- (CO1)

2. Distinguish between orbit and orbital. (CO1)

3. Define buffer solution. Give two examples. (CO1)

4. Calculate the number of moles present 10.6 gm of Na_2CO_3. (CO1)

5. Draw the atomic structures of Si and Ge. (CO1)

PART – B

3x8M = 24M

Instructions: (1) Answer either (A) or (B).

(2) Each question carries 8 marks.

6. a) Explain Postulations of Bhor's atomic theory. Give its limitations. (CO1)

   (OR)

   b) Explain the significance of Quantum numbers. (CO1)

7. a) Define molarity and normality. Calculate the molarity and normality of 10.6 gm of Na_2CO_3 present in 500 ml solution. (CO1)

   (OR)

   b) Explain Arrhenius theory of acids and bases. Give its limitations. (CO1)

8. a) Define ionic bond. Explain the formation of ionic bond in NaCl. (CO1)

   (OR)

   b) Define solution. Explain the types of solutions based on its solubility. (CO1)

***

UNIT TEST –II

Model Question Paper (C-23)

ENGINEERING CHEMISTRY & ENVIRONMENTAL STUDIES (104)

TIME: 90 minuts **Total Marks:40**

PART-A

16 Marks

Instructions: (1) Answer all questions.

(2) First question carries 4 marks and each of rest carries 3 marks.

(3) Answers for Q.No. 2 to 5 should be brief and straight to the point and shall not exceed five simple sentences.

1. a) Graphite is an insulator. (True of False) (CO2)

   b) ---------- is an electrolyte in Hydrogen-Oxygen fuel cell (CO2)

   c) Zinc is more active than Iron. (True or False) (CO2)

   d)Write the Chemical formula of rust. (CO2)

2. Write any three differences between metallic conduction and electrolytic conduction.(CO2)

3. Write a short note on stress cell. (CO2)

4. Define hard water. Mention any two salts that cause hardness (CO3)

5. What is the role of salt bridge? (CO2)

PART – B **3x8M = 24M**

Instructions: (1) Answer either (A) or (B) .

***(2) Each question carries 8 marks*.**

6. a) Explain construction and working of galvanic cell.Draw the neat diagram. (CO2)

   (OR)

   b) Explain construction and working of Lead -storage battery. (CO2)

7. a) Calculate the temporary, permanent and total hardness of water containing the following salts:

   $CaSO_4$ =13.6 mg/lit, $Mg(HCO_3)_2$ = 7.3 mg/lit,

   $Ca(HCO_3)_2$ = 16.2 mg/lit, $MgCl_2$ = 9.5 mg/lit (CO3)

   (OR)

   b) Explain Ion-Exchange process of softening of hard water. (CO3)

8. a) What is rusting of iron? Explain Mechanism of rusting of iron. (CO2)

   (OR)

   b) Explain cathodic protection methods. (CO2)

***

UNIT TEST –III

Model Question Paper (C-20)

ENGINEERING CHEMISTRY & ENVIRONMENTAL STUDIES (104)

TIME: 90 minutes **Total Marks:40**

PART-A

16 Marks

Instructions: (1) Answer all questions.

(2) First question carries 4 marks and each of rest carries 3 marks.

(3) Answers for Q. No. 2 to 5 should be brief and straight to the point and shall not exceed five simple sentences.

1. a) Semiconductor Nano Crystals are called …… (CO4)

   b) Chloroprene is the monomer of Neoprene. (True/False) (CO4)

   c) Give any two examples for green house gases. (CO5)

   d) Presence of ozone in stratosphere is a pollutant.(Yes/No) (CO5)

2. Define liquid crystals. Give their applications. (CO4)

3. Write a method of commercial production of Hydrogen as a fuel. (CO4)

4. Define Green Chemistry. List any two benefits. (CO5)

5. Define TLV and Sink. Give an example each. (CO5)

PART – B **3x8M = 24M**

Instructions : (1) Answer either (A) or (B).

(2) Each question carries 8 marks.

6. a) Define polymerization. Explain condensation polymerization by taking nylon 6,6 a san example. . (CO4)

   (OR)

   b) Define elastomers. Give a method of preparation and applications of Buna-S. (CO4)

7. a) What is air pollution? Discuss any one of the Global impacts of air pollution. (CO5)

   (OR)

   b) Write the composition and uses of the following:

   i) LPG ii) CNG iii) Biogas iv) Power Alcohol (CO4)

8. a) Define e-pollution. State the sources and controlling methods of e-pollution. (CO5)

   (OR)

   b) Define water pollution. Write the causes of water pollution. (CO5)

***

Model Question Paper (C-23)

ENGINEERING CHEMISTRY & ENVIRONMENTAL STUDIES (104)

TIME: 3hrs **Total Marks:80**

PART-A

Instructions: (1) Answer all questions. (2) Each question carries Three marks. 3x10=30M

1.	Draw the atomic structures of Si and Ge.	(CO1)
2.	Write the anomalous electronic configuration of Chromium and Copper.	(CO1)
3.	State the limitations of Arrhenius theory of acids and bases.	(CO1)
4.	Define solution. Classify solutions based on solubility.	(CO1)
5.	State the applications of Li-ion batteries.	(CO2)
6.	List the factors that influence the rate of corrosion of metals.	(CO2)
7.	Mention disadvantages of hard water used in industries.	(CO3)
8.	State any three applications of Nano Materials.	(CO4)
9.	Write the composition and uses of LPG.	(CO4)
10.	What is e-waste? State the sources of e-waste.	(CO5)

PART – B

Instructions: (1) Answer any five questions. (2) Each question carries Ten marks. 10x5=50M

11.	Explain the significance of quantum numbers.	(CO1)	10M
12.	Define molarity and normality. Calculate the molarity and normality of 250 ml of solution that contains 5.3 gm of sodium carbonate.	(CO1)	10M
13.	a) Define ionic bond. Explain the formation of ionic bond in NaCl.	(CO1)	6M
	b) Define Buffer solution. Give any two examples and applications.	(CO1)	4M
14.	a) Explain the construction and working of Hydrogen-Oxygen Fuel cells.	(CO2)	6M
	b) State any four differences between electrolytic cells and Galvanic cells.	(CO2)	4M
	a) Explain the mechanism of rusting of iron.	(CO2)	6M
	b) Write a short note on Sacrificial anodic method of prevention of corrosion.	(CO2)	4M
15.	Define hard water. Explain ion-exchange process of softening of hard water with a neat diagram.	(CO3)	10M
16.	a) Define elastomer. Write a method of preparation and any two applications of Buna-s .	(CO4)	6M
	b) What are Liquid Crystals? Give any two examples and applications.	(CO4)	4M
17.	a) Define deforestation. State the impacts of deforestation.	(CO5)	6M
	b) Write a short note on Ozone layer depletion.	(CO5)	4M

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Basics Of Computers with Animation and Graphics

AMG-105

Model Blue Print:

S.No.	Chapter/ Unit title	No. of periods	Weightage Allocated	Marks Wise Distribution of Weightage				Question wise Distribution of Weightage				CO's Mapped
				R	U	Ap	An	R	U	Ap	An	
1	Fundamentals of Digital Computers	15	16	3	13			1	2			CO1,CO3, CO4
2	Programming Methodologies	10	16	3	3	10		1	1	1	1	CO2
3	Operating system basics	20	26	3	3	10	10	1	1	1	1	CO1,CO3
4	Computer Hardware and Networking Basics	25	26	3	3	10	10	1	1	1	1	CO1,CO4, CO5
5	Basics Of Computers with Animation and Multimedia Concepts	20	26	3	3	10	10	1	1	1	1	CO2,CO6
	Total	**90**	**110**	15	25	40	30	**5**	**6**	**4**	**3**	

DIPLOMA IN 3D ANIMATION AND GRAPHICS ENGINEERING

MODEL PAPER

BASICS OF COMPUTERS WITH ANIMATION AND GRAPHICS CONCEPTS

UNIT TEST-1

SCHEME: C-23 **SUBJ CODE:AMG-105**

MAX MARKS:40 **TIME: 90Minutes**

PART-A **16Marks**

Instructions: 1) Answer all questions

2) First question carries 4marks, and each question of remaining carries 3marks.

1. a) All computer physical components are treated as software(True/False) (CO1)

   b) ----------is the fastest memory in the computer (CO2)

   c)Step by step procedure to solve problem is ---------- (CO2)

   d)Which one of the following is not an internal command [ ] (CO3)

   i) FORMAT II) RD III) COPY IV) CLS

2) State the importance of binary number system for use in Digital Computers (CO1)

3) List different steps involved in problem solving (CO2)

4) What is the need for an operating system? (CO3)

5) Write about analog computers. (CO1)

PART-B **3X8=24Marks**

Instructions:1) Answer all questions 2) Each question carries 8 Marks

3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

6. a) Draw and explain block diagram of computer in detail (CO1)

Or

b) Explain various generation of computers (CO1)

7. a) Draw the flow chart to find biggest of three numbers (CO2)

Or

b) Write an algorithm to find the area of triangle when base and height are given. (CO2)

8. a) Explain any three external commands in detail (CO3)

Or

b) Explain components of a window. (CO3)

***

BOARD DIPLOMA EXAMINATIONS

DIPLOMA IN 3D ANIMATION AND GRAPHICS ENGINEERING
MODEL PAPER – YEAR END EXAMINATION
BASICS OF COMPUTERS WITH ANIMATION AND GRAPHICS CONCEPTS

SCHEME: C-23 **SUBJ CODE:AMG-105**
MAX MARKS:80 **TIME: 3HOURS**

PART-A **10X3=30Marks**

Note: Answer all questions

1. Define terms Hardware and Software. (CO1)
2. State the importance of binary system usage in Digital Computers (CO1)
3. Define algorithm (CO2)
4. State the different steps involved in problem solving (CO2)
5. List the features of Windows desktop (CO3)
6. State the meaning of a file and folder (CO3)
7. What is intranet? (CO5)
8. List various browsers (CO5)
9. State the need of computer graphics. (CO6)
10. List any three animation software (CO6)

PART-B **5x10=50Marks**

Note: Answer any five questions

11. i) State the use of storage devices used in a Computer. (CO1)
    ii) State the importance of cache memory. (CO1)
12. Explain in detail the characteristics of an algorithm. (CO2)
13. Explain about atleast 10 Internal Commands and 5 External Commands. (CO3)
14. Explain the procedure for changing resolution, color, appearance, screensaver options of the display. (CO3)
15.. Explain 3 types of Software in detail. (CO4)
16. Explain Internet Security. (CO5)
17. Explain any four types of Animations. (CO6)
18 .Explain any four Graphic multimedia products. (CO6)

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C AND GRAPHICS PROGRAMMING

AMG-106

Model Blueprint

S.No.	Chapter/Unit title	No.of periods	Weightage Allocated	Marks Wise Distribution of Weightage				Question wise Distribution of Weightage				CO's Mapped
				R	U	Ap	An	R	U	Ap	An	
1	Introduction to C Language	15	16	6	10			2	1			CO1,CO2
2	Input and output statements, Operators and Expressions in C	25	16	6	10				2	1		CO1,CO2,C3
3	Decision making, iterative and other control statements	40	26		6	10	10		2	1	1	CO1,CO2,CO3
4	Arrays and strings , Structures and Unions	30	26		6	10	10		2	1	1	CO1,CO2,CO3
5	User defined functions and Graphics Programming	35	26		6	10	10		2	1	1	CO1,CO2,CO3,CO4, CO5
	Total*	**150**	**110**	**12**	**38**	**30**	**30**	**2**	**9**	**4**	**3**	CO1,CO2,CO3,CO4

DIPLOMA IN 3D ANIMATION AND GRAPHICS ENGINEERING
MODELPAPER
C AND GRAPHICS PROGRAMMING(AMG-106)
UNITTEST-1

SCHEME:C-23 **SUBJCODE:AMG-106**
MAX MARKS:40 **TIME:90Minutes**

PART-A **16Marks**

Instructions: 1)Answer all questions
2) First question carries 4marks, and each question of remaining carries3marks

1. a) Int is a Data type in C language.(True/False) (CO1)
   b) 'a' is an example for_____constant. (CO1)
   c) Scanf () is used for_____. (CO2)
   d) Which one of the following is a Relational operator[ ] (CO2)
   I) + II)- III)* IV)>=
2) List any three data types of C language. (CO1)
3) Define a)Keyword b)Identifier c)Constant (CO1)
4) Write a sample program using Conditional operator? (CO2)
5) Distinguish between pre-increment and post-increment operators. (CO2)

PART-B 3X8=24Marks

Instructions:1) Answer all questions
6. a)Write the C-Programming structure and explain each part of it (CO1)
   (Or)
   b)Explain various generation of computers (CO1)

1. a)Explain Arithemetic, Relational, Logical operators with examples. (CO2)
   (Or)
   b)Evaluate the following C-Expression and write the final value (CO2)
   X=((2 +6/2 +3* 6)–((4 +6)/2+5)/10)+1) /5.0

2. a)Illustrate Type Conversion techniques in detail (CO2)
   Or
   b)Write the C-program using for matted input and out put functions. (CO2

***

BOARD DIPLOMA EXAMINATIONS
DIPLOMA IN 3D ANIMATION AND GRAPHICS ENGINEERING
MODELPAPER- END EXAMINATION
C AND GRAPHICS PROGRAMMING

SCHEME:C-23 **SUBJCODE:AMG-106**
MAX MARKS:80 **TIME:3HOURS**

PART-A

Note: Answer all questions. Each question carries 3 marks **10X3=30M**

1.	Define an identifier and write two valid identifiers	1+2	CO1
2.	Write a short note on type qualifiers	3	CO1
3.	Write the syntax of formatted out put statement	3	CO1
4.	Write a program to print the biggest of two numbers using conditional operators	3	CO3
5.	Differentiate between break and continue	3	CO3
1	What is nesting? Give an example.	3	CO2
2	What is an array? How to declare an array?	1+2	CO2
3	List any three sting functions	3	CO2
4	Give the syntax and examples for delay()and kbhit() functions.	1.5+1.5	CO5
5	State the importance of "void"	3	CO4

PART-B

Note:1.Answer any five questions.
2.Each question carries 10marks **5 X10=50M**

11. Write the C-Programming structure and explain each part of it CO1
12. Write a program to print the following pattern CO3

```
        1

    1   2   1
1   2   3   2   1
```

""up to nth level

13. List and explain iterative statements with syntax and examples. CO3
14. Write eight differences between structures and unions. CO3
15. Write a C-program to add two matrices using Arrays. CO3
16. Write a program to calculate the factorial of a function using recursive concept with the help of parameter passing and return value CO3&CO5
17. Explain any two graphic functions related to draw shapes. CO5

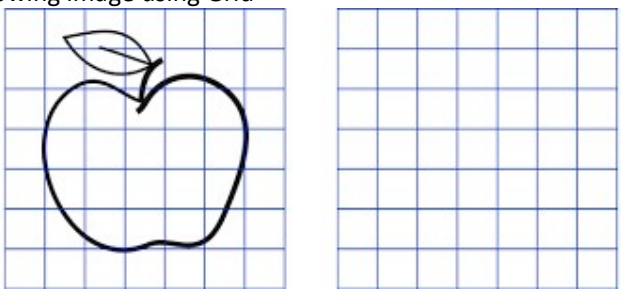
MODEL QUESTION PAPER
DAMG – I-YEAR
FUNDAMENTALS OF ART AND DRAWING

Instructions:01. Due weightage will be given for the neatness and usage of proper tools and materials

PART – A **05 x 04=20**

01. Answer all the questions
02. Each question carries FIVE marks

01. Draw the following image using Grid CO1



02. Draw an example image with one point perspective view. CO4
03. Draw face and head of a teen girl. CO5
04. Draw the Figure of horse with proper texture , lighting and shading. CO5

PART – B **10 X 04 = 40**

01. Answer any FOUR of the following questions
02. Each question carries TEN marks

05.Create a panorama view of a composition of your exam hall in details with perspectives and proper light and shade , texture, contrast and with suitable Compositional Techniques. CO3

06.Draw an image with overlapping and intersection of Objects and Shapes in three point Perspective. CO3,CO4
07. Draw the human figure as stick figure in different postures and gestures. CO5
08. Drawing Parrot image while eating ripened Mango at evening 4 o clock in proper proportion. CO5
09. Draw the Crocodile anatomy from the basic shapes a). Ellipse b). Heart CO5
10. Assume a man is trying to feed grains to the group of 5 different birds resting on a roof. Construct animated scene in 5 steps showing the birds flying away from the man into the sky with proper background and colors. CO6

***

I Year Internal Lab Examination
UNIT TEST - I
MODEL QUESTION PAPER
COMPUTER FUNDAMENTALS LAB

SCHEME: C-23 **SUBJ CODE: AMG-111**
MAX MARKS:40 **Time:90Min**

1. Identify the internal hardware components of a PC and assemble them.
2. Identify the external components or peripherals of a PC and connect them.
3. Identify the components on motherboard.
4. Perform the process of placing processor on CPU slot.
5. Perform the process of removing and placing the RAM in the corresponding slot.
6. Identify the AGOS battery and test whether it is working it or not.
7. Find details of following:

   a) Operating System being used.

   b) Processor name

   c) RAM

   d) Hard disk
8. Create a folder by your name, search a file or folder and find its path.
9. Draw the National Flag using MS Paint.
10. Create a word document that contains TEN names of your classmates (boys-5 & girls-5) and perform the following tasks:

    a) Save the document to your desktop.

    b) Sort the names in each list alphabetically.

    c) Set line spacing to 1.15.

    d) Use bullet points for the names in both lists separately.

***

I Year Internal Lab Examination
UNIT TEST - II
MODEL QUESTION PAPER
COMPUTER FUNDAMENTALS LAB

SCHEME: C-23 **SUBJ CODE:AMG-111**
MAX MARKS:40 **Time:90Min**

1. Write individually addressed letters to your friends about the Republic Day celebration using Mail Merge.
2. Create a Word document about your college and insert page numbers in footer and College Name in header.
3. Create your class time table using Tables in MS Word.
4. Create a 2-page document about your College& insert hyperlinks for courses offered in the college and insert Bookmarks next to College Name.
5. Write individually addressed letters to your friends (at least 5 members) to intimate the External Examination time table using Mail Merge.
6. Write an equation $\frac{(x+y)^2}{(x-y)^2} = \frac{x^2+2xy+\ ^2}{x^2-2xy+y^2}$ in MS word.
7. Create the organizational structure of your college in MS Word.
8. Create a spreadsheet by totalling marks of 3 or more subjects, then calculate percentage and hence find grade based on boundary conditions of FIVE students:
   Grades O >= 90%, A >=80%, B >=70%, C >=60%, D >=50%, E >=40%, F <40%
9. Create a Excel spreadsheet for the following data, making sure that the cell marked with Category (A1) is pasted in cell A1 in the spreadsheet and perform the questions below.

Category (A1)	Product Name	Quantity	Inventory	Price per Unit	Total Price
Office Supplies	Binder	2	20	12.99	25.98
Office Supplies	Pencil	20	20	0.99	
Electronics	Samsung 4K Smart TV	1	5	399.00	
Electronics	Bluetooth Speakers	4	5	44.49	
Computers	Lenovo X230 12in Laptop	2	2	279.90	

   a) Change the format of the “Total Price” column to “Currency” format.

   b) Calculate Total Price by writing formula.

   c) Turn on filtering for the table.

   d) Sort the table by column “Category” from A to Z.

10. Create a spreadsheet to calculate Cumulative monthly attendance for a period of Three months

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Year Internal Lab Examination
UNIT TEST - III
MODEL QUESTION PAPER
COMPUTER FUNDAMENTALS LAB

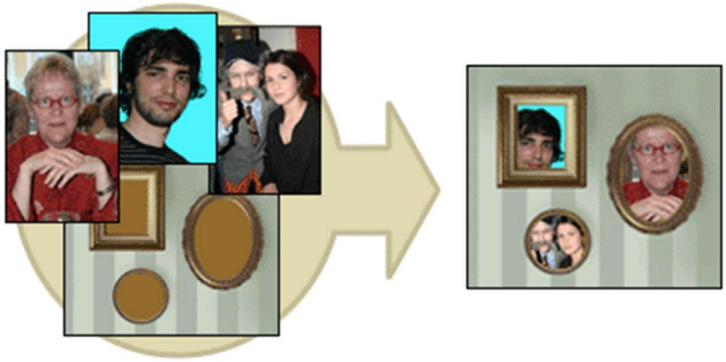
SCHEME: C-23 **SUBJ CODE: AMG-111**
MAX MARKS:40 **Time:90Min**

1. Create a Power Point Presentation about your College in 5 slides only.
2. Create a Power Point Presentation on Computer Hardware in minimum 5 slides.
3. Create a Power Point Presentation on Computer Fundamentals with Entrance, Emphasis effects in minimum 5 slides.
4. Create a Power Point Presentation on any topic with special animation effects like Entrance, Motion Paths &Exit.
5. Resize the image using Photoshop.
6. Change the background of a Photograph.
7. Edit an image by using

   a) Crop tool.

   b) Resize the image

   c) Save the new image with new name keeping original image as it is.
8. A Picture of two parrots (parrots.jpg) is given to you. Make anyone of one of the parrots in Black & White.
9. Convert a color image to monochrome and improve quality of photograph.
10. Copy three pictures and fit into the empty frames.



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BOARD DIPLOMA EXAMINATIONS
DIPLOMA IN 3D ANIMATION AND GRAPHICS ENGINEERING
MODEL PRACTICAL QUESTION PAPER-YEAR END EXAM
COMPUTER FUNDAMENTALS LAB

SCHEME: C-23 **SUBJ CODE:AMG-111**
MAX MARKS:60 **TIME: 3HOURS**

1. Identify the internal hardware components of a PC and assemble them.
2. Identify the external components or peripherals of a PC and connect them.
3. Write the procedure to create the files and folders
4. Write the procedure to access Calculator, Paint and Notepad application
5. Write the procedure to perform the following in MS Word
   (a) Change the Font Size
   (b) Change the Font Style
   (c) Change the Text Size
6. Write the procedure to perform the following in MS Word
   (a)Change the Font Color.
   (b)Use Various Text Alignment Options.
   (c)Format text in Bold, Italic and Underline.
7. Create the hierarchy of your family in MS Word.
8. Write the procedure to perform the following in MS Word:
   (a) Insert a Table
   (b) Add a Row
   (c) Add a column
   (d) Delete a Row
   (e) Delete a column
9. Write the procedure to use Equation $\frac{(x+y)^2}{(x-y)^2} = \frac{x^2+2xy+y^2}{x^2-2xy+y^2}$ and Symbols.
10. Write the procedure to perform the following in MS Excel
    (a) To Modify Column Width
    (b) To Modify Row Height

(c) Format text in Bold, Italic, and Underline.

11. Write the procedure to create charts and Graphs in MS Excel.
12. Write the procedure to create simple Power Point Presentation on your college in Three slides.
13. Write the procedure to perform Animation on Text and Objects in your presentation.
14. Take a photographic image. Give a title for the image. Put the border. Write your names.

Write the Name of Institution and Place.

15. Prepare a cover page for the book in your subject area. Plan your own design.
16. You are given a picture of a flower and associated background (Extract.jpg).Extract the Flower only from that and organize it on a background. Select your own background for organization.
17. You are given a picture (BrightnessContrast.jpg). Adjust the brightness and contrast of the picture so that it gives an elegant look.
18. You are given a picture (position.jpg). Position the picture preferably on a plain background of a color of your choice - Positioning include rotation and scaling.
19. Remove the arrows and text from the given photographic image(Filename: photo.jpg).
20. Type a word; apply the following effects. Shadow Emboss.

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THIRD SEMESTER

C-23 CBD -101 ENGLISH

Time Schedule : C23-CBD- 101 : ENGLISH						
S.no.	Title of the Unit	Periods allotted	Weightage of Marks	No. of Short answer questions	No. of Long Answer questions	Mapping of COs
1	English for Employability	8	16	2	1	CO1, CO2, CO3, CO4, CO5
2	Living in Harmony	8			2	CO1, CO2, CO3, CO4, CO5
3	Connect with Care	8	26	2		CO1, CO2, CO3, CO4, CO5
4	Humour for Happiness	8				CO1, CO2, CO3, CO4, CO5
5	Never Ever Give Up!	8	10	1	1	CO1, CO2, CO3, CO4, CO5
6	Preserve or Perish	9	23		2	CO1, CO2, CO3, CO4, CO5
7	The Rainbow of Diversity	8		2		CO1, CO2, CO3, CO4, CO5
8	New Challenges -Newer Ideas	8	19		1	CO1, CO2, CO3, CO4, CO5
9	The End Point First	8		1		CO1, CO2, CO3, CO4, CO5
10	The Equal Halves	8	16	1	1	CO1, CO2, CO3, CO4, CO5
11	Dealing with Disaster	9		1		CO1, CO2, CO3, CO4, CO5
	Total	**90**	**110**	**30**	**80**	

C23- COMMON-101: ENGLISH: END EXAM (80 Marks) Question Paper Pattern (Division of Topics: Question wise)			
S.No. of the Question	**Weightage of Marks**	**Language Skill / grammatical Concept of the question**	**Sub aspects & Description**
PART-A ; 10 questions X3 marks = 30 Marks			
1	**3** (6 Questions X ½ Mark)	Articles & Prepositions	a) Definite, indefinite articles b) prepositions of place, time, directions
2	**3** (6 Questions X ½ Mark)	Vocabulary	Synonyms, Antonyms, affixes, words& phrases, Phrasal Verbs, words matching with meanings, one word substitutions,
3	**3** (6 Questions X ½ Mark)	Helping Verbs	a) Primary helping verbs (be/do/have) b) Modal verbs
4	**3** (3 questions 1 mark each)	Tenses	Using appropriate Verb forms
5	**3** (3 questions 1 mark each)	Voice	Conversion : Active & Passive voice
6	**3** (3 questions 1 mark each)	Adjectives	Using appropriate adjective form/ conversion : Degrees of comparison
7	**3** (3 questions 1 mark each)	Types of sentences & positive, negative sentences	Conversion from one type of sentence to the other , making negative sentence
8	**3** (3 questions 1 mark each)	Syntheses of Sentences / Conjunctions / linkers	Transformation of sentences : Simple, complex & compound sentences / use of linkers/ conjunctions
9	**3** (3 questions 1 mark each)	Direct& Indirect Speech	Conversion from Direct to Indirect & Vice versa
10	**3** (3 questions 1 mark each)	Correction of Sentences	Remaining grammar aspects (concord & usage based…etc)

PART –B ; 5 QX10 M = 50 Marks			
11	**10 Marks**	Paragraph Writing	From Units 1,2,3 (theme based- focus on importance of learning and using English)
12	**10**	Giving instructions or directions	From Units 4,5,6,7 Theme based / Situation based /role play/ general topic
13	**10**	Dialogue writing	
14	**10**	Essay writing	From Units 8,9,10,11 (theme based)
15	**10**	Letter writing	Formal / informal letters
16	**10**	Report Writing	Report on Mini projects/ industrial visits / camps/ events / celebrations
17	**10** (2 questions X 5 Marks)	a) E-Mail writing b) Framing questions	a) E mail etiquette b) Wh& Yes-No questions
18	**10** (Ten questions 1 mark each)	Reading Comprehension	An unseen piece of prose text with 10 questions for reading comprehension check

Model Question Paper: End Exam **C23- Common- 101**

SBTET – I Year End Examinations

C23-Common-101: ENGLISH

Time: 3 Hrs. **Max.Marks: 80**

PART-A **10X3=30 Marks**

Instructions: Answer all the questions and each question carries 3 marks. Marks will be awarded only for the desired and accurate language / grammatical expressions.

1. A) Fill in the blanks with appropriate articles:

My father sent me _____ envelope through _____ messenger and _____ cover contained a bank cheque in my favour.

B) Fill in the blanks with suitable prepositions:

My mother arranged a beautiful flower vase _____ my study table, just beside my computer,

_____ which she keeps fresh flowers every day. The vase is made _____ ceramic.

2. A) Give synonyms for the words: i) depressed ii) caricature

B) Give antonyms for the words: i) natural ii) visible

C) Add affixes to the words: i) prefer ii) proper

3. A) Fill in the blanks with suitable Primary Helping Verbs (Be/ do/ have forms):

i) All the books _____ already been sold out.

ii) She paid condonation fees as she_____ not attend the classes regularly last semester.

iii) Why _____ you not giving me reply?

B) Fill in the blanks with suitable Modal verbs based on the clue given in brackets.

i) Pratap is an ambidextrous; he _____ write with his two hands. (ability)

ii) Jyothsna _____ pay the tuition fees by tomorrow. (obligation)

iii) My grandfather _____ to ride a horse in his youth. (Past habit)

4. Fill in the blanks with suitable verb form using the base form given in the brackets.

i) Suma_____ (bring) a pup to the class yesterday.

ii) Johnny _____(play) the piano in a music band every weekend.

iii) Girija _____ (watch) a movie on TV when I visited her last Sunday.

5. Change the voice of the following:

i) My elder brother paid my exam fees yesterday.

ii) These two chapters will be taught in next month.

iii) They are constructing a new house.

6. i) Pacific is _____(big) ocean of all. (Fill in with appropriate degree of the adjective given in the bracket)

ii) No other food item is as nutritious as honey. (Change into Comparative degree)

iii) Bangalore is one of the beautiful cities of India. (Change into Positive degree)

7. i) You need two thousand rupees to buy a new pair of shoes. Write a polite expression asking your father for money.

ii) Radhika has been invited for the wedding. (Convert into a negative sentence)

iii) Our pet pigeons flew away last night. (Convert into a negative sentence)

8. i) Ramesh can't reach on time _____ he travels by a superfast train. (Fill in with suitable conjunction)

ii) Though the long bell was given, the children stayed in the classroom. (Change into a simple sentence)

iii) Get a ticket on a sleeper coach, and then you can sleep during journey. (Change into a complex sentence)

9. i) Tarun said, " Prathima, I shall return your notes tomorrow". (change into a reported speech)

ii) Arjun requested his sister Priya not to disturb him while he was studying. (change into a direct speech)

iii) Teacher said, "Students, why are you talking in the class?" (change into a reported speech)

10. Correct the following sentences:

i) These flowers are smelling sweet.

ii) Either the father or his children has arrived home early.

iii) Every bike rider should abide to the traffic rules.

PART-B **10X5=50Marks**

Instructions: a) Answer any FIVE questions and each question carries TEN marks.

b) The criterion for the award of marks is the appropriate content, quality and clarity of expression but not the length of your answer.

11. Write a paragraph in 120 words about the problems you are experiencing in speaking English and your own solutions to overcome them.

12. Write a set of instructions to create a word file and insert a Table using MS office on a computer.

13. Write a dialogue in at least eight turns between a sales person and you at a readymade garment showroom as you want to buy a readymade dress.

14. Write an essay in about 175 words on valuing opposite gender and show mutual respect.

15. Write a letter to the Municipal Commissioner about the menace of street dogs in your area.

16. Imagine that your class had visited an industry / organisation relevant to your branch of Engineering; write a report about the visit to submit to your HOD.

17. a) Write an E-mail to your cousin requesting him/her to send you the diploma study material by a courier or post.

b) Frame THREE 'wh' questions & TWO 'Yes-No' questions from the following passage.

Dolphins are intelligent animals. A dolphin's nose is on top of its head. So, it can easily breathe on the surface of the water. The skin of a dolphin has no scales. It is soft and smooth. They swim in 'pods'; a very large pod is called a 'herd'. They are very social and help each other fight off predators. Dolphins brain has two sides. One side sleeps while the other side stays awake.

18. Read the following passage and answer the questions that follow. Your answer should be accurate, precise and limited to a word or phrase or a simple sentence.

The Indian Army is the land-based branch and the largest component of the Indian Armed Forces. The President of India is the Supreme Commander of the Indian Army, and it is commanded by the Chief of Army Staff (COAS), who is a four-star general. The primary mission of the Indian Army is to ensure national security and national unity, defending the nation from external aggression and internal threats, and maintaining peace and security within its borders. It conducts humanitarian rescue operations during natural calamities and other disturbances, like Operation Surya Hope, and can also be requisitioned by the government to cope with internal threats. It is a major component of national power alongside the Indian Navy and the Indian Air Force. The army has been involved in four wars with neighbouring Pakistan and one with China. Other major operations undertaken by the army include: Operation Vijay, Operation Meghdoot and Operation Cactus.

a) What is the largest component of Indian Armed Forces?

b) Who is the four-star general?

c) "Maintaining internal peace and security is not one of the responsibilities of Indian Army". Is the statement True or False ?

d) What is the primary mission of the Indian Army?

e) Name the operation held by the Indian Army during natural disaster.

f) What are the other two forces mentioned in the passage?

g) If you were to join Armed forces, which wing do you prefer? State your reason in a sentence.

h) Pick the word from the passage that would mean: 'forcefulness or violent behavior'

i) Give the antonym for the word: 'internal'

j) Suggest a suitable title for the passage in a word or phrase.

C23-Common-101 :English : Bifurcation of Syllabus for UNIT TESTS 1,2,3			
Unit Test	**Lessons / Chapters**	**Grammar / Language aspects (Topics or Short Answer questions)**	**Writing Skills (Topics for Long answer/ Essay Questions)**
U.T 1	Chapters 1,2,3	a)articles & prepositions, b)Vocabulary: Affixes, synonyms, Antonyms, matching meanings, words & phrases, one word substitutes) c)Adjectives (degrees of comparison) d) Main& Auxiliary Verbs e) phrasal verbs/ word order	a) Theme based Paragraph (focus on LSRW skills, importance of English, Self-esteem, SWOC analysis, Social media) b) Dialogue on themes of lessons 2&3 / Dialogue on General topic / a situation c) Reading comprehension
U.T 2	Chapters 4,5,6,7	a) concord b) Tenses c) Types of sentences d) Framing questions e) words &phrases, linkers	a) Theme based paragraph (Humour for happy living, learning from failures, Environmental protection, multi- culture /global culture) b) Letter writing (formal& informal), c) instructions/ directions, E-mail writing
U.T 3	Chapters 8,9,10,11	a) Voice (active &passive) b) Speech(direct& indirect) c) Synthesis of sentences (simple, complex, compound sentences) d) Error analysis e) words &phrases, linkers	a) Theme based paragraph/ Essay writing (Technical innovations, Goal setting, gender sensitivity, dealing with disaster) b) Essay writing, Report writing c) Reading Comprehension
Unit Test Question Paper pattern (40 Marks)	Total 40 Marks (Part A=16 Part B =24)	Short Answer questions (Part-A) Q. 1 = 4 marks Q. 2 to 5 = 3 Marks each Total=16 Marks	Long Answer Questions: (Part-B) Q. 6,7,8 @ 8 marks each ; Each question with Internal choice Total: 8X3 = 24 Marks

C23- COMMON-101: ENGLISH:UNIT TEST Exams 1,2,3 (40 Marks each) Question Paper Pattern (Division of Topics: Question wise)				
UNIT TEST-1 Marks : 40 ; Time 90 Mnts. (Lessons 1,2,3) :				
PART-A : 16 Marks				
S.No.	**Marks allotted**	**Grammatical concept/ aspect/ skill**	**Sub topics / concepts**	
1	**4 Marks** (8 Questions X ½ Mark)	Vocabulary	a) Affixes, b) Synonyms c) antonyms d)one word substitutes	
2	**3** (6 Questions X ½ Mark)	Articles &Prepositions	a) Definite, indefinite articles b) Prepositions of place, time direction	
3	**3** (3 questions 1 mark each)	Adjectives	a) Using appropriate forms of adjectives b) Conversion of Degrees of comparison	
4	**3** (6 questions ½ mark each)	Helping Verbs	a) Primary helping verbs (be/do/have) b)Modal verbs	
5	**3 Marks** (3 questions 1 mark each)	Phrasal verbs	Using phrasal verbs in sentences of one's own	
Part – B : 8X3 = 24 Marks				
6	**8** Marks	Paragraph question A or B (internal choice)	Theme based questions : Lesson 1 : Focus on LSRW skills, problems and solutions in using English, Importance of English, English for employability, SWOC analysis	
7	**8 M**	Dialogue making A or B (internal choice)	Conversation / Role play between two people : a) Dialogue on themes of lessons 2&3 b) Dialogue on General topic / a situation	
8	**8 M**	Reading Comprehension A or B (internal choice)	Unseen prose passages with 8 different questions (F I V E model questions+ Others)	
Unit Test -2: Marks : 40 ; Time 90 Mnts. (Lessons 4,5,6,7)				
Part – A: 16 Marks				
1	**4 Marks**	Tenses	Present, Past, Future tenses : Filling in with proper verb forms using the given base form	
2	**3 M**	Concord	Concord: agreement between subject and verb	
3	**3 M**	Framing questions	Framing Wh& Yes-No questions	

4	**3 M**	Types of sentences	Conversion of sentences (except questions) , Using of proper linkers / discourse markers	
5	**3 M**	Words& Phrases , linkers	Using words& phrases, linkers in sentences of one's own	
		Part – B : 8X3 = 24 Marks		
6	**8 Marks**	Paragraph writing A or B (internal choice)	a) Themes on lessons 4/5 b) Themes based on lessons 6/7	
7	**8 M**	Letter Writing (internal choice : A or B)	a) Letter writing : formal b) Letter writing: Informal	
8	**8 M**	a) Paragraph: Tenses Reinforcement b) Email & Instructions/ directions	a) Paragraph on Routines/ past narration / Future plans b) i) E- Mail writing (formal or informal) ii) Giving instructions/ directions	
		Unit Test -3: Marks : 40 ; Time 90 Mnts. (Lessons 8,9,10,11)		
		Part – A ; 16 Marks		
1	4 Marks	Error Analysis	Find errors and make corrections	
2	3 M	Voice	Conversion: Active & Passive voice	
3	3 M	Synthesis of sentence	Conversion: Simple, complex & compound sentences	
4	3 M	Reported speech	Conversion: Direct & Indirect speech	
5	3 M	Words & phrases, linkers	Matching words with their meanings/ Using words& phrases, linkers in sentences of one's own	
		Part- B : 8X3 = 24 Marks		
6	8 Marks	Essay writing A or B (internal choice)	a) Theme based (lessons 8 / 9) b) Theme based (Lessons 10/11)	
7	8 M	Report writing A or B (internal choice)	a) Report on Mini projects/ industrial visits / camps/ events /exhibitions / celebrations b) themes from lessons 8 to 11 …like disaster management / technical inventions / gender equality/ goal setting	
8	8 M	Reading Comprehension A or B (internal choice)	Reading passages with 8 different questions (FIVE model+ others)	

Model Question Papers : Unit Tests

Unit Test-1: C23- Common-101: English

Time: 90 Mnts. **Max. Marks: 40**

Part-A **16 Marks**

Instructions: Answer all the questions and the first question carries 3 marks. Questions from 2 to 5 carry three marks each. The marks will be awarded only for the desired and accurate language / grammatical expressions.

1. A) Give synonyms for the words: i) abruptly ii) advantage (½ X2=1 M)

B) Give antonyms for the words: i) pure ii) dry (½ X2=1 M)

C) Add affixes for the words: i) connect ii) worth (½ X2=1 M)

D) Give one word substitute for the following: (½ X2=1 M)

i) The interactive web page that can be updated frequently by an individual or group.

ii) An ability that can be acquired by anyone through practice.

2. A) Fill in the blanks with proper Articles: (½ X3 = 1 ½ M)

i) My cousin joined M.Tech in _____ University in Tamil Nadu.

ii) Mrs. RekhaChatterjee is _____ MLA from the West Bengal.

iii) My father came to _____ college yesterday to pay my exam fees.

B) Fill in the blanks with appropriate prepositions:(½ X3 = 1 ½ M)

i) What can I do _____ you ,Sarat?

ii) Mr. Agarwal distributed his property _____ his two daughters.

iii) The coach was pleased _____the performance of the players.

3. Rewrite / Fill in the following blanks as directed in the brackets: (1X3 = 3 M)

a) BurjKhalifa is one of _____(tall) buildings in the world. (Fill in with proper form of the

adjective given in the brackets)

b) The tiger is more ferocious than the leopard. (Change into Positive degree)

c) Very few cities in India are as populous as Mumbai. (Change into comparative degree)

4. A) Fill in the blanks with proper Primary Helping Verbs (be/do/have forms)(½ X3 = 1 ½ M)

i) Prasad _____ (be) at the canteen when I saw him a few minutes ago.

ii) He _____ (do) this work always.

iii) The teacher _____just left the classroom.

B) Fill in the blanks with appropriate Modal verbs based on the clue given in the brackets:(½ X3 = 1 ½ M)

i) We all _____ respect our elders. (moral obligation)

ii) Sir, _____ I come in please? (seeking permission)

iii) Tarun _____ easily win the match. (ability)

5. Use the following phrasal verbs in sentences of your own. (1X3 = 3 M)

i) bring up ii) give away iii) put off

Part-B **8X3=24 Marks**

Instructions: Answer all the questions. Each question carries 8 marks. The marks will be awarded for the appropriate content, quality and clarity of expressions, but not the length of your answer.

6. A)Write a paragraph in around 120 wordsabout the significance of learning and using English in your present and future life.

OR

B) Write a paragraph in around 120 words about challenges you are facing in speaking and writing English and the solutions to overcome them.

7. A) Write a dialogue between two friends in at least six turns discussing the advantages and disadvantages of social media.

OR

B) Write a dialogue between two friends, who have joined different courses in different colleges after their tenth class and now exchanging information about their newly joined courses and colleges.

8. A) Read the following passage and answer the questions that follow. Your answer should be accurate, precise and limited to a word or phrase or a simple sentence:

Treating life as an adventure is the best quality of successful people. A person's security lies not in his comfort zone, but in his initiative, creativity and courage. Effective people do not label others from their past success or failure, but rediscover each time they meet them. These people are not overawed by top celebrities, cine personalities and sadhus. Winning people are excellent team players to take part in the process of creative problem solving. They are skillful at balancing their strengths and weaknesses with others. The final character of victorious people is exercising the four dimensions of life i.e., physical, mental, emotional, and enthusiastic.

Questions:

a) What is the best quality of successful people?

b) List out the three qualities which make a person secure?

c) Why are the effective people not wondered at the lives of celebrities?

d) What do the team players do?

e) What is the special skill of the winning people?

f) What is the final character of victorious people?

g) What qualities of effective or winning people do you want to inculcate?

h) Pick the word from the passage that would mean: "the feeling of respect, wonder and fear all together at something or someone"

OR

B) Read the following passage and answer the questions that follow.Your answer should be accurate, precise and limited to a word or phrase or a simple sentence:

Benjamin Franklin was born in 1706 in Boston, Massachusetts. He came from a big family. He had 16 brothers and sisters. When Benjamin was 15, his brother started the first Boston newspaper. It was called 'The New England Courant'. He worked for the newspaper for a short time, but he was not happy. So, he went to Philadelphia and worked as a printer. In 1729, he bought a newspaper business. The newspaper was the 'Pennsylvania Gazette'. He was very busy. In 1733, he started publishing 'Poor Richard's Almanac'. His pen name (the name he used as an author) was Richard Saunders. This book came out every year. Almanacs have information about weather and crops. They also have wise sayings. The wise saying "A penny saved is a penny earned" comes from Poor Richard's Almanac. Benjamin Franklin was also an inventor. In 1743 he invented a very good stove called the Franklin stove. He invented swim fins. He invented bifocal glasses. He also invented the first odometer. He retired from his newspaper business in 1749. He stopped working on it. Then he became busy with science. Benjamin Franklin was also very interested in American politics. He helped Thomas Jefferson write the Declaration of

Independence. In 1776, he and other people signed the Declaration of Independence. Franklin died on April 17, 1790. He was 84 years old.

Questions:

a) How many siblings did Benjamin Franklin have?

b) What was the newspaper started by his brother?

c) What did he buy after working as a printer?

d) What information was available in his Almanacs?

e) Mention any two inventions made by Benjamin Franklin?

f) Rewrite the meaning of the saying in your own words: "A penny saved is a penny earned"

g) Which American president was Benjamin Franklin associated with?

h) Pick the word from the passage that would mean: "external limbs of fish that help them swim and steer".

Unit Test-2: C23- Common-101: English

Time: 90 Mnts. Max. Marks: 40

Part-A 16 Marks

Instructions: Answer all the questions and the first question carries 4 marks. Questions from 2 to 5 carry Three marks each. The marks will be awarded only for the desired and accurate language / grammatical expressions.

1. Fill in the blanks with proper verb form using the base form given in the brackets. (1X4=4M)

a) The match _____ (start) already before we entered the stadium.

b) Rani _____ (clean) dishes when the phone rang.

c) They _____(hold) the thief tightly until the police arrived.

d) Mr. Rajesh and his team _____(work) on this project since last month.

2. Fill in the blanks with the appropriate word from the pair given in the brackets. (1X3=3M)

a) Bread and butter _____ a wholesome breakfast. (is / are)

b) The minister accompanied by his staff _____already arrived. (have/ has)

c) Not only the film director but also all the actors _____facilitated by the committee. (was/ were)

3. Frame two different 'Wh' questions and one 'Yes-No' question from the following: (1X3=3M)

India is the second most populous country just behind China. It is expected that in a few months, India stands top on the list due to our unprecedented birth rate. On the contrary, Japan is losing its population. The rate of death in Japan is double when compared to its birth rate of the country.

4. Convert the following sentences as directed. (1X3=3M)

a) I want your bike for one hour. (convert into an imperative sentence)

b) It is a very beautiful garden. (convert into an exclamatory sentence)

c) Alas! what a great tragedy. (convert into a declarative sentence)

5. Use the following words/ phrases/ linkers in sentences of your own:(1X3=3M)

a) struggle ii) ground breaking iii) however

Part-B **8X3=24 Marks**

Instructions: Answer all the questions. Each question carries 8 marks. The marks will be awarded for the appropriate content, quality and clarity of expressions, but not the length of your answer.

6. A) Write a paragraph in around 120 words about dealing with obstacles and failures in one's life.

OR

B) Write a paragraph in around 120 words about protecting our environment.

7. A) Write a letter to your Principal requesting him / her to issue your Original Tenth marks list as you need to update your ADHAR card with date of birth and other details and return the certificate after the updating work.

OR

B) Write a letter to your father requesting him to send you two thousand rupees as you have to pay your hostel fees.

8. A) Write a paragraph in around 120 words about your future plans after Diploma.

OR

B) i) Draft an E-mail to your friend inviting him/her to your village to spend the weekend with you.

ii) Write a set of instructions at least in five sentences about drawing money from an ATM.

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Unit Test-3: C23- CBD-101: English

Time: 90 Mnts. **Max. Marks: 40**

Part-A **16 Marks**

Instructions: Answer all the questions and the first question carries 4 marks. Questions 2 to 5 carry Three marks each. The marks will be awarded only for the desired and accurate language / grammatical expressions.

1. Correct the following sentences: (1X4=4M)

a) All the books have been sold out last week.

b) I, Ramesh and you will together book a cab.

c) I am feeling terribly cold.

d) The police has arrested the gang of robbers.

2. Change the voice of the following: (1X3=3M)

a) A cat is chasing two rats.

b) The news has been published recently.

c) They will certainly win the match.

3. Rewrite the sentences as directed: (1X3=3M)

a) Though Rakesh studied well, he could not get the first class. (Convert into a simple sentence)

b) It was raining heavily, and so the match was cancelled. (Convert into a complex sentence)

c) The horse was too old to gallop. (Convert into a compound sentence)

4. Change the speech of the following as directed: (1X3=3M)

a) Satwik said to his mother, “I forgot my water bottle in my classroom.”

b) The teacher ordered the students not to make noise.

c) Swapna said, “Rajesh, what are you searching for?”

5. Use the following words /phrases/ linkers in sentences of your own: (1X3=3M)

i) apologize to ii) occasionally iii) for a while

Part-B **8X3=24 Marks Instructions:** Answer all the questions. Each question carries 8 marks. The marks will be awarded for the appropriate content, quality and clarity of expressions, but not the length of your answer.

6. A) Write an essay in about 175 words on how the technical inventions changed our lives.

OR

B) Write an essay in about 175 words about the significance of the gender equality.

7 A) Write a report about any disaster that you have read in newspaper or witnessed including your
suggestions for better preventive measures to mitigate the loss.

OR

B) Write a report about the Inter Polytechnics Sports and Games Meet (IPSGM) held in your District headquarters.

8 A) Read the following passage and answer the questions that follow.Your answer should be accurate, precise and limited to a word or phrase or a simple sentence.

Animals living in modern zoos enjoy several advantages over animals in the wild; however, they must also suffer some disadvantages. One advantage of living in the zoo is that the animals are separated from their natural predators; they are protected and can, therefore, live without risk of being attacked. Another advantage is that they are regularly fed a special, well-balanced diet; thus, they do not have to hunt for food or suffer times when food is hard to find. On the other hand, zoo animals face several disadvantages. The most important disadvantage is that since they do not have to hunt for food or face their enemies, some animals became bored, discontented or even nervous. Another disadvantage is that zoo visitors can endanger their lives. Some animals can pick up airborne diseases from humans.

Questions:

a) What are the two animal habitations mentioned in the passage?

b) Give the main advantage of animals living in zoo.

c) What kind of food is the zoo animals fed with?

d) What is the most disadvantage aspect faced by the zoo animals?

e) How do you think that the visitors can harm the zoo animals?

f) Do you support keeping the animals in a zoo for our entertainment? Justify your answer in a sentence.

g) Pick the word from the passage that would mean: A violent or bigger animal that kills and eats the other tiny animal.

h) Suggest a suitable title for the passage.

OR

B) Read the following passage and answer the questions that follow. Your answer should be

accurate, precise and limited to a word or phrase or a simple sentence.

"I say to you today, my friends, even though we face the difficulties' of today and tomorrow, I still have a dream. I have a dream that one day this nation will rise up, live out the true meaning of its creed. I have a dream that one day on the red hills of Georgia sons of former slaves and sons of former slave-owners will be able to sit down together at the table of brotherhood. I have a dream that my four little children will one day live in a nation where they will not be judged by the colour of their skin but by the content of their character. I have a dream…. I have a dream that one day in Alabama, with its vicious racists, with its governor having his lips dripping with the words of interposition and nullification, one day right there in Alabama little black boys and black girls will be able to join hands with little white boys and white girls as sisters and brothers:" On 28th August in 1963, Dr. Martin Luther King, Jr. spoke these immortal words to a crowd of over 200000 people who had gathered for the now historic march in Washington to demand an end to racial segregation in the USA, and for equality in jobs and civil rights.

Questions:

a) Who is the speaker of the above speech and what is his nationality?

b) What is the occasion of the above speech: ( )

i) a birthday party ii) an election campaign

iii) a movement for a right cause iv) a government function

c) What sort of discrimination did the speaker fight against?

d) What good does he expect regarding the children of slaves and masters?

e) What is the contextual meaning of the frequently used word “dream” ?

f) How should a nation be judged?

g) What are the two places mentioned by the speaker in his speech?

h) Pick the word from the passage that would mean: “that lives for ever without death”

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C-23 CBD-102 Engineering Mathematics-I

TIME SCHEDULE

S.No.	Chapter	No. of Periods	Marks Allotted	Short type	Essay type	COs mapped
Unit - I: Algebra						
1	Functions	6	3	1	0	CO1
2	Partial Fractions	5	3	1	0	CO1
3	Matrices and Determinants	20	16	2	1	CO1
Unit - II: Trigonometry						
4	Trigonometric Ratios	2	0	0	0	CO2
5	Compound Angles	5	3	1	0	CO2
6	Multiple and Submultiple angles	8	3	1	0	CO2
7	Transformations	6	5	0	1/2	CO2
8	Inverse Trigonometric Functions	6	5	0	1/2	CO2
9	Trigonometric Equations	6	5	0	1/2	CO2
10	Properties of triangles	5	5	0	1/2	CO2
11	Complex Numbers	6	3	1	0	CO2
Unit III: Co-ordinate Geometry						
12	Straight Lines	5	3	1	0	CO3
13	Circles	6	5	0	1/2	CO3
14	Conic Sections	12	5	0	1/2	CO3
Unit – IV: Differential Calculus						
15	Limits and Continuity	6	3	1	0	CO4
16	Differentiation	28	23	1	2	CO4
Unit – V: Applications of Derivatives						
17	Geometrical Applications	4	5	0	1/2	CO5
18	Physical Applications	6	5	0	1/2	CO5
19	Maxima and Minima	4	5	0	1/2	CO5
20	Errors and Approximations	4	5	0	1/2	CO5
	Total	150	110	10	8	
			Marks	30	80	

C –23, Common -102

Unit Test I

State Board of Technical Education and Training, A. P.

First Year

Subject name: Engineering Mathematics-I

Sub Code: Common-102

Time: 90 minutes **Max.marks:40**

Part-A **16Marks**

Instructions: **(1) Answer all questions.**

(2) First question carries four marks and the remaining questions carry Three marks each.

1. Answer the following:

   a. If $X = \{1,2,3,4\}$ and $Y = \{1,4,9,16,25\}$, then $f : X \to Y$ defined by

   $f = \{(1,1),(2,4),(3,9),(4,16)\}$ is a function: State TRUE/FALSE. (CO1)

   b. If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$, then 3A =_____. (CO1)

   c. The value of $\sin 45° + \cos 45^o$ is _____. (CO2)

   d. The formula for $\tan 2A$ in terms of $\tan A$ is _____. (CO2)

2. If $A = \begin{bmatrix} 1 & 3 \\ 4 & -9 \end{bmatrix}$, $B = \begin{bmatrix} 2 & 4 \\ -3 & 1 \end{bmatrix}$ then find $A + B$. (CO1)

3. Find the determinant of $\begin{bmatrix} 2 & -1 & 4 \\ 0 & -2 & 5 \\ -3 & 1 & 3 \end{bmatrix}$. (CO1)

4. Find the value of $\sin 75^0$. (CO2)

5. Prove that $\frac{\sin 2A}{1-\cos 2A} = \cot A$ (CO2)

Part-B **3×8=24**

Instructions: **(1) Answer all questions.**
(2) Each question carries eight marks
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

6. A) Resolve $\frac{2x}{(x-1)(x-3)}$ into partial fractions. (CO1)

or

B) Resolve $\frac{x-4}{(x-2)(x-3)}$ into partial fractions. (CO1)

7. A) If $A=\begin{bmatrix} 2 & 3 & 4 \\ 5 & 7 & 9 \\ -2 & 1 & 3 \end{bmatrix}$ and $B=\begin{bmatrix} 3 & 1 & -5 \\ 2 & 1 & 4 \\ 0 & 3 & 1 \end{bmatrix}$, then find AB (CO1)

Or

B) If $P=\begin{bmatrix} 3 & 1 & 4 \\ 1 & -2 & 0 \\ 3 & 1 & 6 \end{bmatrix}$ and $Q=\begin{bmatrix} 1 & 5 & -3 \\ 0 & 6 & 9 \\ -2 & 7 & 8 \end{bmatrix}$, show that $(P+Q)^T = P^T + Q^T$. (CO1)

8. A) Find the adjoint of the matrix $\begin{bmatrix} 1 & 2 & -2 \\ -1 & 3 & 5 \\ 2 & 7 & -4 \end{bmatrix}$ (CO1)

or

B) Solve the following system of linear equations by Cramer's rule:
$x - y + z = 2, 2x + 3y - 4z = -4, 3x + y + z = 8$ (CO1)

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C –23, Common -102

Unit Test II

State Board of Technical Education and Training, A. P.First Year

Subject name: Engineering Mathematics-I

Sub Code: Common- 102

Time: 90 minutes **Max.marks:40**

Part-A **16Marks**

Instructions: **(1) Answer all questions.**

(2) First question carries four marks and the remaining questions carry three marks each

1. Answer the following.

   a. $\sin C+\sin D=2\cos\left(\frac{C+D}{2}\right)\sin\left(\frac{C-D}{2}\right)$: State TRUE/FALSE (CO2)

   b. If $\sin^{-1}\left(\frac{3}{5}\right)=\tan^{-1}(x)$, then $x=$ _____. (CO2)

   c. If $z=2+3i$, then $|z|$=_____. (CO2)

   d. The eccentricity of the rectangular hyperbola is _____. (CO3)

2. Express $(3-4i)(7+2i)$ in terms of $a+ib$ (CO2)

3. Find the intercepts made by the straight line $x+5y-10=0$. (CO3)

4. Find the centre and radius of the circle $x^2+y^2-2x+4y-4=0$ (CO3)

5. Find the vertex and focus of the parabola $y^2=8x$. (CO3)

Part-B **3×8=24**

Instructions: **(1) Answer all questions.**

(2) Each question carries eight marks

(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

6. A) Prove that $\frac{sin5\theta+sin\theta}{cos5\theta+cos\theta}=tan3\theta$. (CO2)

   or

   B) Prove that $tan^{-1}\left(\frac{1}{4}\right)+tan^{-1}\left(\frac{3}{5}\right)=\frac{\pi}{4}$ (CO2)

7. A) Solve $2\sin^2\theta - \sin\theta - 1 = 0$ (CO2)

or

B) If a =3, b=4, c=5, find the area of the ΔABC. (CO2)

8. A) Find the equation of the line passing through $(1,1)$ and perpendicular to the line $2x + 3y - 1 = 0$. Also find the perpendicular distance from the given point to the given line. (CO3)

or

B) Find the equation of the ellipse whose focus is (2, 0), directrix is x+y-1= 0 and eccentricity is ½. (CO3)

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C –23, Common -102

Unit Test III

State Board of Technical Education and Training, A. P

First Year

Subject name: Engineering Mathematics-I

Sub Code: Common-102

Time: 90 minutes **Max.Marks:40**

Part-A **16 Marks**

Instructions: **(1) Answer all questions.**

(2) First question carries four marks and the remaining questions carry three marks each.

1. Answer the following:

   a. $\lim_{x\to 1}\frac{x^2+1}{x+5}=\frac{1}{3}$: State TRUE/FALSE. (CO4)

   b. For any constant n, $\frac{d}{dx}(x^n)$ =_____ (CO4)

   c. $\frac{d}{dx}\left(3\tan^{-1}x\right)=?$ (CO4)

   d. Write the formula for finding the percentage error in x. (CO5)

2. Evaluate $\lim_{\theta\to 0}\frac{sin2\theta}{\theta}$ (CO4)

3. Find the derivative of $3\tan x+4\log x$ w.r.t. x. (CO4)

4. Differentiate $x^2\sin x$ w.r.t. x. (CO4)

5. Find the slope of the tangent to the curve $y=x^3-3x+2$ at the point $(1,7)$. (CO5)

Part-B **3×8=24**

Instructions: **(1) Answer all questions.**

(2) Each question carries eight marks

(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

6. A) if $x=at^2$ and $y=2at$ then find $\frac{dy}{dx}$ (CO4)

or

B) Find $\frac{dy}{dx}$, if $y = x^x$ (CO4)

7. A) If $y = ae^x + be^{-x}$, then prove that $\frac{d^2y}{dx^2} - y = 0$. (CO4)

or

B) If $u(x, y) = \log(x + y)$, then find $\frac{\partial u}{\partial x}$ and $\frac{\partial u}{\partial y}$ (CO4)

8. A) The radius of a sphere is decreasing at a rate of 0.2 cm/sec. How fast is its surface area decreasing when the radius is 10 cm. (CO5)

or

B) Find the maximum and minimum values of the function $f(x) = x^3 - 3x$. (CO5)

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END-EXAM MODEL PAPERS

STATE BOARD OF TECHNICAL EDUCATION, A.P

C-23 ENGINEERING MATHEMATICS-I, Common- 102

TIME: 3 HOURS **MODEL PAPER- I** **MAX.MARKS: 80M**

PART-A

Answer All questions. Each question carries THREE marks. 10x3=30M

1. If $A=\left\{0,\frac{\pi}{4},\frac{\pi}{2}\right\}$ and $f:A\to B$ is a function defined by $f(x)=\cos x$, then find the range of f. (CO1)

2. Resolve the function $\frac{x}{(x-1)(x-2)}$ into partial fractions. (CO1)

3. If $\mathrm{A}=\begin{bmatrix}3 & 9 & 0\\ 1 & 8 & -2\end{bmatrix}$ and $\mathrm{B}=\begin{bmatrix}4 & 0 & 2\\ 7 & 1 & 4\end{bmatrix}$, find A+B (CO1)

4. Find the determinant of the matrix $\begin{bmatrix}2 & -1 & 4\\ 0 & -2 & 5\\ -3 & 1 & 3\end{bmatrix}$ by Laplace's expansion. (CO1)

5. Show that $\frac{\cos 16^0+\sin 16^0}{\cos 16^0-\sin 16^0}=\tan 61^0.$ (CO2)

6. Prove that $\frac{\sin 2\theta}{1-\cos 2\theta}=\cot\theta.$ (CO2)

7. Find the modulus of the complex number $3+4i.$ (CO2)

8. Find the distance between the parallel lines $4x-3y+9=0$ and $4x-3y+5=0.$ (CO3)

9. Evaluate $\lim_{x\to 0}\frac{\sin 77x}{\sin 11x}.$ (CO4)

10. Find $\frac{dy}{dx}$, if $y=x^4+1$ (CO4)

PART-B

Answer any FIVE questions. Each question carries TEN marks. 5x10=50M

11. Solve the system of linear equations $x+y+z=6,\ x-y+z=2$ and $2x+y-z=1$ using matrix inversion method. (CO1)

12. A) Show that $\frac{sin7\theta+sin5}{cos7\theta+cos5\theta}=tan6\theta.$ (CO2)

    B) Prove that $tan^{-1}\left(\frac{1}{7}\right)+tan^{-1}\left(\frac{1}{13}\right)=tan^{-1}\left(\frac{2}{9}\right)$ (CO2)

13. A) Solve $(2\sin x - 1)(\tan x - \sqrt{3}) = 0.$ (CO2)

B) If a =10, b=12, c =5, then find the area of the ΔABC. (CO2)

14. A)Find the equation of the circle with (4, 2) and (1, 5) as the two ends of its diameter. (CO3)

B) Find the equation of the conic whose focus is (1,0), directrix is 3x+4y+1=0 and eccentricity is 2. (CO3)

15. A) Find the derivative of $3tanx - 4logx - 7e^x + \sin^{-1} x$ w.r.t *x.* (CO4)

B) Find the derivative of x^2e^{3x} w.r.t *x.* (CO4)

16. A) If $x = a(1 - \cos\theta), y = a(\theta + \sin\theta)$, then find $\frac{dy}{dx}$. (CO4)

B) If $u(x, y) = x^2y + y^2x$, then find $\frac{\partial u}{\partial x}$ and $\frac{\partial u}{\partial y}$ (CO4)

17. A) Find the equation of tangent to the curve $y = x^2 + 1$ at (2,1). (CO5)

B) If the radius of a circular plate is increasing at 0.7 cm/sec, find the rate of increase in its area when the radius is 10 cm. (CO5)

18. A) Find maximum or minimum value of $f(x) = x^2 - 4x + 3.$ (CO5)

B) If an error of 0.02 cm is made in the side of a square, what is the approximate error in the area and perimeter of the square? (CO5)

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STATE BOARD OF TECHNICAL EDUCATION, A.P.

C-23 ENGINEERING MATHEMATICS-I, Common- 102

TIME: 3 HOURS **MODEL PAPER- II** **MAX.MARKS: 80M**

PART-A

Answer All questions. Each question carries THREE marks. 10x3=30M

1. If A={-1, 0, 1} and $f: A \to B$is defined by $f(x) = x^2 - x + 1$, then find the range of f. (CO1)

2. Resolve the function $\frac{1}{(x+1)(x-2)}$ into partial fractions. (CO1)

3. If A = $\begin{bmatrix} 3 & 9 & 0 \\ 1 & 8 & -2 \end{bmatrix}$and B= $\begin{bmatrix} 4 & 0 & 2 \\ 7 & 1 & 4 \end{bmatrix}$, then find $(A+B)^T$. (CO1)

4. If A= $\begin{bmatrix} 4 & 2 \\ -1 & 1 \end{bmatrix}$, then find A^2. (CO1)

5. Find the value of $\frac{cos36^0 + si^{\ 0}}{cos36^0 - sin36^0} = tan\ 81^0$. (CO2)

6. Prove that $\frac{1+cos}{sin2\theta} = cot\theta$. (CO2)

7. Find the modulus of the complex number 3+2*i.* (CO2)

8. Find the point of intersection of the non-parallel lines $x + y + 1 = 0$ and $2x - y + 5 = 0$. (CO3)

9. Evaluate $\lim_{x \to 3} \frac{x^3 - 27}{x - 3}$ (CO4)

10. Find $\frac{dy}{dx}$, if $y = x^3 + 5x$. **(**CO4)

PART-B

Answer any FIVE questions. Each question carries TEN marks. 5x10=50M

11. Solve the system of linear equations $x - y + 3z = 5,\ 4x + 2y - z = 0$ and $-x + 3y + z = 5$ using Cramer's rule. (CO1)

12 A) Show that$cos40^0 + cos80^0 + cos160^0 = 0$. (CO2)

B) Prove that $tan^{-1}\left(\frac{1}{4}\right) + tan^{-1}\left(\frac{3}{5}\right) = \frac{\pi}{4}$ (CO2)

13. A) Solve $2\cos^2\theta - 3\cos\theta + 1 = 0$. (CO2)

B) If a =5, b=7, C =30°, then find the area of the ΔABC. (CO2)

14. A) Find the equation of the circle passing through the points (0, 0), (2, 0), and (0, 3) (CO3)

B) Find the vertex, focus, directrix and latus rectum of the parabola $y^2 = 16x$. (CO3)

15. A) Find the derivative of $3\sin x + log\ x + 2\tan^{-1} x + 8e^{-x}$ w.r.t.*x.* (CO4)

B) Find the derivative of $\frac{1-x^2}{1+x^2}$ w.r.t. x. (CO4)

16. A) If $y = x^{\sin x}$, then find $\frac{dy}{dx}$. (CO4)

B) If $y = \tan^{-1} x,$ then prove that $\left(1+x^2\right)\frac{d^2y}{dx^2}+2x\frac{dy}{dx}=0.$ (CO4)

17. A) Find the equation of tangent to the curve $y = x^3 - 2x^2 + 4$ at (2,4). (CO5)

B) If $s(t) = t^2 + 2t + 3$is the displacement of a particle, find its velocity and acceleration at the time t=3 sec. (CO5)

18. A) Find maximum or minimum value of $f(x)=3+10x-5x^2$. (CO5)

B) If an error of 0.02 cm is made in the side of a square, then what is the percentage error in the calculated value of its area? (CO5)

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C-23 CBD-103 ENGINEERING PHYSICS
Blue Print for setting question paper at different levels

S.No	Major Topics	Weightage of Marks	Short Answer Type(Marks)			Essay Type(Marks)		
			R	U	A	R	U	A
1	Units and measurements	03	0	0	3	0	0	0
2	Statics	13	0	0	3	0	10	0
3	Gravitation	20	0	0	0	10	10	0
4	Concepts of energy	13	0	0	3	0	10	0
5	Thermal physics	13	0	3	0	0	0	10
6	Sound	16	0	3	3	0	10	0
7	Electricity & magnetism	16	0	3	3	0	10	0
8	Modern Physics	16	3	0	3	0	0	10
	Total:	110	3	9	18	10	50	20

Table showing the scope of syllabus to be covered for unit tests

Unit test	**Learning outcomes to be covered**
Unit test - 1	From 1.1 to 3.14
Unit test - 2	From 4.1 to 6.18
Unit test - 3	From 7.1 to 8.20

(C–23) CBD-103

UNIT TEST - I, FIRST YEAR

ENGINEERING PHYSICS

***Time* : 90 Minutes** **_____ *Total Marks* : 40**

PART—A **16 Marks**

***Instructions* : (i) Answer all questions.**

(II) Question 1 carries 4 marks. Question numbers from (2) to (5) carries 3 marks each.

1. (i) Which among the following is a fundamental quantity.
   (a) Force (b) Momentum (c) Time (d) Density (CO1)
   (ii) Pascal is the S.I unit of pressure. (True / False) (CO1)
   (iii) Displacement is vector quantity (Yes / No) (CO1)
   (iv) The formula for orbital velocity is _____ (Fill in the blank) (CO2)

2. Define absolute, relative errors and percentage errors. (CO1)

3. Define equal vectors, unit vector and co-initial vectors. (CO1)

4. A force of 100 N acts at a point at an angle of 60° to the horizontal. Find the horizontal and vertical components of force. (CO1)

5. Define natural and artificial satellites. Give one example each. (CO2)

PART— B **24 Marks**

***Instructions* : (i) Answer *all* questions.**

(ii) Each question carries 8 marks with internal choice.

6. (a) Define concurrent and co-planar forces. Explain Lami's theorem. (CO1)

   (OR)

   (b) Two forces 20 N and 30 N acts at a point with an angle of 60°between them. Find the magnitude and direction of the resultant. (CO1)

7. (a) State and explain Kepler's laws of planetary motion. (CO2)

   (OR)

   (b) Define acceleration due to gravity (g). Write the factors affecting the value of g. (CO2)

8. (a) Write a brief note on polar and geo-stationary satellites. (CO2)

   (OR)

   (b) State the Newton's universal law of gravitation and derive the relationship between g and G. (CO2)

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(C–23) CBD-103

UNIT TEST - II, FIRST YEAR

ENGINEERING PHYSICS

***Time* : 90 Minutes** ***Total Marks* : 40**

PART — A ***16 Marks***

Instructions : (i) Answer all questions.

(ii) Question 1 carries 4 marks. Question numbers from (2) to (5) carries 3 marks each.

1 (i) Which among the following is unit of Work.

(a) newton (b) pascal (c) joule (d) watt (CO2)

(ii) In Boyle's law verification, temperature remains constant. (Yes/No) (CO3)

(iii) Velocity of sound in a medium varies with temperature (Yes/No) (CO3)

(iv) The S.I unit of intensity of sound _____ (Fill in the blank) (CO3)

2 Define potential energy, give one example. (CO2)

3 Explain the absolute scale of temperature. (CO3)

4 An ideal gas of given mass at temperature 100 °C occupies a volume of 240 CC. If it is heated at constant pressure, find its volume at 150 °C. (CO3)

5. Write any three differences between musical sound and noise. (CO3)

PART—B ***24 Marks***

Instructions : (i) Answer all questions.

(ii) Each question carries 8 marks with internal choice.

6. (a) Write about solar energy and solar thermal conversion. (CO2)

(OR)

(b). Define kinetic energy and derive the relationship between KE and momentum. (CO2)

7. (a) Write ideal gas equation and calculate the value of R for 1 gram mole of a gas. (CO3)

(OR)

(b) Define conduction, convection and radiation. Explain with one example each. (CO3)

8. (a) Write four methods of reducing an echo and four applications of echo. (CO3)

(OR)

(b) What are ultra sonics. Mention six applications of it. (CO3)

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C–23) CBD-103

UNIT TEST - III, FIRST YEAR

ENGINEERING PHYSICS

***Time* : 90 Minutes** ***Total Marks* : 40**

PART—A ***16 Marks***

Instructions : (i)Answer all questions.

(ii) Question 1 carries 4 marks. Question numbers from (2) to (5) carries 3 marks each.

1. (i) The S.I unit of specific resistance is

   (a) Ω (b) Ω /m (c) Ω - m (d) pascal (CO4)

   (ii) Magnetic field lines are open curves. (True/False) (CO4)

   (iii) At the critical angle, the angle of refraction is equal to 90°. (Yes/No) (CO4)

   (iv) Photo eletric cell converts ____ energy into electric energy (Fill in the blank) (CO4)

2. Find the current passing through a conductor of resistance 2 Ω when P.D of 50 V is applied across it. (CO4)
3. State the Coulomb's inverse square law of magnetism and write the equation for it. (CO4)
4. State three laws of photo electric effect. (CO4)
5. Write any three applications of superconductors. (CO4)

PART—B ***24 Marks***

Instructions : (i) Answer all questions.

(ii) Each question carries 8 marks with internal choice.

6. (a) State and explain Kirchoff's laws. (CO4)

   OR

   (b) Draw circuit diagram of Meter bridge. Two resistors of 10 Ω and 30 Ω are connected in the left and right gaps of a meter bridge. Find the balancing length. (CO4)

7. (a) Define para, ferro and dia magnetic materials with two examples each. (CO4)

   OR

   (b) Explain the principle and working of an optical fiber. (CO4)

8. (a) Explain intrinsic and extrinsic semiconductors. (CO4)

   OR

   (b) Explain conductors, semiconductors and insulators based on energy gap. (CO4)

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Common–103

BOARD DIPLOMA EXAMINATION, (C–23)

FIRST YEAR EXAMINATION

ENGINEERING PHYSICS

Time : 3 hours **Total Marks : 80**

PART— A ***3 ×10 = 30***

Instructions : (i) Answer all questions. (ii) Each question carries three marks.
(iii) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Write any three advantages of S.I units. (CO1)
2. Define moment of force. Write its SI unit. (CO1)
3. Find the work done in lifting a body of mass 10 kg through a height of 20 m against gravity. (CO2)
4. Define absolute zero temperature. Convert -10 °C into Kelvin temperature. (CO3)
5. Define Doppler effect. Mention one application. (CO3)
6. Write the Sabine's formula for reverberation time and name the quantities in it. (CO3)
7. Define specific resistance. Write its S.I unit. (CO4)
8. Write any three characteristics of magnetic lines of force. (CO4)
9. Draw a neat diagram of photoelectric cell and name the parts. (CO4)
10. Write any three applications of optical fibers. (CO4)

PART—B ***10×5=50***

Instructions : (i) Answer any five questions. (ii) Each question carries ten marks.
(iii) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. (a) State and explain triangle law of vectors. 6
    (b) A force of 100 N acts on a particle at an angle of 30° to the horizontal. Find the horizontal and vertical components of force. 4 (CO1)
12. State and explain Kepler's law of planetary motion. 10 (CO2)
13. (a) Derive the relationship between g and G.
    (b) Calculate the orbital velocity of a satellite so that it revolves around the earth if the Radius of

earth = 6.5×10^6 m, mass of earth = 6×10^{24} kg and Gravitational constant G = 6.67×10^{-11} Nm^2/kg^2. 5+5 (CO2)

14. Explain the principles of solar thermal conversion and photo-voltaic effect. 5+5 (CO2)

15. (a) Derive the ideal gas equation.

    (b) Volume of a gas at 27 °C is 100 CC. Keeping the pressure constant, find its volume at a temperature of 50 °C. 7+3 (CO3)

16. (a) Write any five methods of reducing noise pollution.

    (b) Define echo. Write three applications of it. 5+2+3 (CO3)

17. (a) Derive an expression for balancing condition of Wheat stone's bridge with neat circuit diagram.

    (b) The values of resistance of P, Q, R are 50 Ω, 10 Ω and 15 Ω respectively in the balanced condition of the bridge. Find the unknown resistance S. 7+3 (CO4)

18. Explain n-type and p-type semiconductors. 5+5 (CO4)

***

C-23 CBD-104 ENGINEERING CHEMISTRY & ENVIRONMENTAL STUDIES

Model Blue Print with Weightage for Blooms category and questions for each chapter and COs mapped

S.No	Unit Title/Chapter	No of Periods	Weightage of marks	Marks wise distribution of Weightage				Question wise distribution of Weightage				Mapped with CO
				R	U	Ap	An	R	U	Ap	An	
1	Fundamentals of Chemistry	14	21	15*	3	3		1½*	1	1		CO1
2	Solutions, Acids and Bases	16	21	8*	10	0	3	1½*	1		1	CO1
3	Electrochemistry	12	13	0	10	3			1	1		CO2
4	Corrosion	8	13	3	10	0		1	1			CO2
5	Water Treatment	8	13	10	0	0	3	1			1	CO3
6	Polymers & Engineering materials.	12	13	0	10	3		0	1	1		CO4
7	Fuels	6	3	0	0	3		0		1		CO4
8	Environmental Studies	14	13	0	13	0			2			CO5
Total		90	110	36	56	12	6	5	7	4	2	

***One question of 10 marks should be given with 50% weightage from unit title 1and 2**

Model question paper for Unit Test with COs mapped

UNIT TEST –I

Model Question Paper (C-23)

ENGINEERING CHEMISTRY & ENVIRONMENTAL STUDIES (104)

TIME: 90 minutes **Total Marks: 40**

PART-A

16 Marks

Instructions: (1) Answer all questions.

(2) First question carries 4 marks and each of rest carries 3 marks.

(3) Answers for Q.No. 2 to 5 should be brief and straight to the point and shall not exceed five simple sentences.

1. a. Number electrons present in Na^+ ion is ---------- (CO1)

   b. The molarity and normality of NaOH is the same (True or False) (CO1)

   c. Acid with pH 6 is stronger than Acid pH 4 (True or False) (CO1)

   d. 2s is spherical shaped orbital but 3p is ---------- (CO1)

2. Distinguish between orbit and orbital. (CO1)

3. Define buffer solution. Give two examples. (CO1)

4. Calculate the number of moles present 10.6 gm of Na_2CO_3. (CO1)

5. Draw the atomic structures of Si and Ge. (CO1)

PART – B

3x8M = 24M

Instructions: (1) Answer either (A) or (B).

(2) Each question carries 8 marks.

6. a) Explain Postulations of Bhor's atomic theory. Give its limitations. (CO1)

   (OR)

   b) Explain the significance of Quantum numbers. (CO1)

7. a) Define molarity and normality. Calculate the molarity and normality of 10.6 gm of Na_2CO_3 present in 500 ml solution. (CO1)

   (OR)

   b) Explain Arrhenius theory of acids and bases. Give its limitations. (CO1)

8. a) Define ionic bond. Explain the formation of ionic bond in NaCl. (CO1)

   (OR)

b) Define solution. Explain the types of solutions based on its solubility. (CO1)

***

UNIT TEST –II

Model Question Paper (C-23)

ENGINEERING CHEMISTRY & ENVIRONMENTAL STUDIES (104)

TIME: 90 minuts **Total Marks:40**

PART-A

16 Marks

Instructions: (1) Answer all questions.

(2) First question carries 4 marks and each of rest carries 3 marks.

(3) Answers for Q.No. 2 to 5 should be brief and straight to the point and shall not exceed five simple sentences.

1. a) Graphite is an insulator. (True of False) (CO2)
   b) ---------- is an electrolyte in Hydrogen-Oxygen fuel cell (CO2)
   c) Zinc is more active than Iron. (True or False) (CO2)
   d)Write the Chemical formula of rust. (CO2)
2. Write any three differences between metallic conduction and electrolytic conduction.(CO2)
3. Write a short note on stress cell. (CO2)
4. Define hard water. Mention any two salts that cause hardness (CO3)
5. What is the role of salt bridge? (CO2)

PART – B **3x8M = 24M**

Instructions: (1) Answer either (A) or (B) .

***(2) Each question carries 8 marks*.**

6. a) Explain construction and working of galvanic cell.Draw the neat diagram. (CO2)

(OR)

b) Explain construction and working of Lead -storage battery. (CO2)

7. a) Calculate the temporary, permanent and total hardness of water containing the following salts:
   $CaSO_4$ =13.6 mg/lit, $Mg(HCO_3)_2$ = 7.3 mg/lit,
   $Ca(HCO_3)_2$ = 16.2 mg/lit, $MgCl_2$ = 9.5 mg/lit (CO3)

(OR)

b) Explain Ion-Exchange process of softening of hard water. (CO3)

8. a) What is rusting of iron? Explain Mechanism of rusting of iron. (CO2)

(OR)

b) Explain cathodic protection methods. (CO2)

***

UNIT TEST –III

Model Question Paper (C-23)

ENGINEERING CHEMISTRY & ENVIRONMENTAL STUDIES (104)

TIME: 90 minutes **Total Marks:40**

PART-A

16 Marks

Instructions: (1) Answer all questions.

(2) First question carries 4 marks and each of rest carries 3 marks.

(3) Answers for Q. No. 2 to 5 should be brief and straight to the point and shall not exceed five simple sentences.

1. a) Semiconductor Nano Crystals are called ..... (CO4)
   b) Chloroprene is the monomer of Neoprene. (True/False) (CO4)
   c) Give any two examples for green house gases. (CO5)
   d) Presence of ozone in stratosphere is a pollutant.(Yes/No) (CO5)
2. Define liquid crystals.Give their applications. (CO4)
3. Write a method of commercial production of Hydrogen as a fuel. (CO4)
4. Define Green Chemistry. List any two benefits. (CO5)
5. Define TLV and Sink.Give an example each. (CO5)

PART – B **3x8M = 24M**

Instructions : (1) Answer either (A) or (B).

(2) Each question carries 8 marks.

6. a) Define polymerisation. Explain condensation polymerisation by taking nylon 6,6 asan example. . (CO4)

(OR)

b) Define elastomers. Give a method of preparation and applicationsof Buna-S. (CO4)

7. a) What is air pollution? Discuss any one of theGlobal impacts of air pollution. (CO5)

(OR)

b) Write the composition and uses of the following:
   i) LPG ii) CNG iii) Biogas iv) Power Alcohol (CO4)
8. a) Define e-pollution. State the sources and controlling methods of e-pollution. (CO5)

(OR)

b) Define water pollution. Write the causes of water pollution. (CO5)

Model Question Paper (C-23)

ENGINEERING CHEMISTRY & ENVIRONMENTAL STUDIES (104)

TIME: 3hrs **Total Marks:80**

PART-A

Instructions: (1) Answer all questions. (2) Each question carries Three marks. 3x10=30M

1. Draw the atomic structures of Si and Ge. (CO1)
2. Write the anomalous electronic configuration of Chromium and Copper. (CO1)
3. State the limitations of Arrhenius theory of acids and bases. (CO1)
4. Define solution. Classify solutions based on solubility. (CO1)
5. State the applications of Li-ion batteries. (CO2)
6. List the factors that influence the rate of corrosion of metals. (CO2)
7. Mention disadvantages of hard water used in industries. (CO3)
8. State any three applications of Nano Materials. (CO4)
9. Write the composition and uses of LPG. (CO4)
10. What is e-waste? State the sources of e-waste. (CO5)

PART – B

Instructions: (1) Answer any five questions. (2) Each question carries Ten marks. 10x5=50M

11. Explain the significance of quantum numbers. (CO1) 10M
12. Define molarity and normality. Calculate the molarity and normality of 250 ml of solution that contains 5.3 gm of sodium carbonate. (CO1) 10M
13. a) Define ionic bond. Explain the formation of ionic bond in NaCl. (CO1) 6M

b) Define Buffer solution. Give any two examples and applications. (CO1) 4M

14. a) Explain the construction and working of Hydrogen-OxygenFuel cells. (CO2) 6M

    b) State any four differences between electrolytic cells and Galvanic cells. (CO2) 4M
15. a) Explain themechanism of rusting of iron. (CO2) 6M

b) Write a short note on Sacrificial anodic method of prevention of corrosion. (CO2)4M

16. Define hard water. Explain ion-exchange process of softening of hard water with a neat diagram. (CO3) 10M
17. a) Define elastomer. Write a method of preparation and any two applications of Buna-s . (CO4) 6M

    b) What are Liquid Crystals? Give any two examples and applications. (CO4) 4M
18. a) Define deforestation. State the impacts of deforestation. (CO5) 6M b) Write a short note on Ozone layer depletion. (CO5) 4M

C-23 CBD-105 Basics Of Cloud computing & Big data Engineering

Model Blue Print:

S.No.	Chapter/Unit title	No.of period	Weightage Allocated	Marks Wise Distribution of Weightage		Question wise Distribution of Weightage		CO's Mapped
				R	**U**	**R**	**U**	
1	Fundamentals of Digital Computers	20	16	6	10	2	1	CO1,CO3, CO4
2	Programming Methodologies	15	13	3	10	1	1	CO2
3	Operating system basics	30	26	6	20	2	2	CO1,CO3
4	Computer Hardware and Networking Basics	30	29	9	20	3	2	CO1,CO4, CO5
5	Basics of Data Structures & Emerging Trends in Computer Technology	25	26	6	20	3	2	CO2,CO6
	Total	120	**110**	**30**	**80**	**10**	**8**	

Note: Part-C: 10 marks single analytical question may be chosen from any one of starred chapters.

Table specifying the scope of syllabus to be covered for unit tests

Unit Test	Learning outcomes to be covered
Unit test-1	From 1.1 to 3.3
Unit test-2	From 3.4 to 4.1
Unit test-3	From 4.2 to 5.4

DIPLOMA IN CLOUD COMPUTING & BIG DATA ENGINEERING
MODEL PAPER
BASICS OF CLOUD COMPUTING & BIG DATA ENGINEERING
UNIT TEST-1
SCHEME: C-23 SUB CODE:CBD-105

MAX MARKS:40 **TIME: 90Minutes**

PART-A **16Marks**

Instructions: 1) Answer all questions
2) First question carries 4marks, and each question of remaining carries 3marks.

1.a)All computer physical components are treated as software(True/False) (CO1)

b) ----------is the fastest memory in the computer (CO2)

c)Step by step procedure to solve problem is ---------- (CO2)

d)Which one of the following is not an internal command [ ] (CO3)

i)FORMAT II)RD III)COPY IV)CLS

2) State the importance of binary number system for use in Digital Computers (CO1)
3)List different steps involved in problem solving (CO2)
4) What is the need for an operating system? (CO3)
5)Write about analog computers. (CO1)

PART-B **3X8=24Marks**

Instructions:1) Answer all questions
2) Each question carries 8 Marks
3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

6. a)Draw and explain block diagram of computer in detail (CO1)
Or
b)Explain various generation of computers (CO1)

7. a) Draw the flow chart to find biggest of three numbers (CO2)
Or
b) Write an algorithm to find the area of triangle when base and height are given. (CO2)
8. a) Explain any three external commands in detail (CO3)
Or
b) Explain components of a window. (CO3)

BOARD DIPLOMA EXAMINATIONS
DIPLOMA IN CLOUD COMPUTING & BIG DATA ENGINEERING
MODEL PAPER – YEAR END EXAMINATION
BASICS OF CLOUD COMPUTING & BIG DATA ENGINEERING

SCHEME: C-23 **SUB CODE:CBD-105**

MAX MARKS:80 **TIME: 3HOURS**

PART-A 10X3=30Marks

Note: Answer all questions

1. Define terms Hardware and Software.	(CO1)
2. State the importance of binary system usage in Digital Computers	(CO1)
3. Define algorithm	(CO2)
4. State the different steps involved in problem solving	(CO2)
5. List the features of Windows desktop	(CO3)
6 . State the meaning of a file and folder	(CO3)
7. What is intranet?	(CO5)
8. List various browsers	(CO5)
9. Define Cloud	(CO6)
10. List the sources of big data	(CO6)

PART-B

5x10=50 Marks

Note: Answer any five questions

11. Explain the generations of computers?	(CO1)
12. Differentiate algorithm and flowchart with suitable examples?	(CO2)
13. Explain about at least 10 Internal Commands and 5 External Commands.	(CO3)
14. Briefly explain installing and uninstalling of software.	(CO3)
15. Explain the role of search engines with suitable examples.	(CO4)
16. Explain functions of BIOS.	(CO4)
17. Explain the characteristics of Big data.	(CO5)
18. Explain cloud components with a diagram.	(CO5)

C-23 CBD-106 Programming in C

Model Blue print Table specifying the scope of syllabus to be covered for unit tests.

S.No.	Chapter/Unit title	No.of period	Weightage Allocated	Marks Wise Distribution of Weightage		Question wise Distribution of Weightage		CO's Mapped
				R	U	R	U	
1	Introduction to C Language	20	16	6	10	2	1	CO1,CO2
2	Input and output statements, Operators and Expressions in C	25	16	6	10	2	1	CO1,CO2, C3
3	*Decision making, iterative and other control statements	40	26	6	20	2	2	CO1,CO2, CO3
4	*Arrays and strings , Structures and Unions	30	26	6	20	2	2	CO1,CO2, CO3
5	*User defined functions, pointers, file management and pre-processor directives	35	26	6	20	2	2	CO1,CO2, CO3,CO4, CO5
	Total	150	110	30	80	10	8	

Note: Part-C: 10 marks single analytical question may be chosen from any one of starred chapters.

DIPLOMA IN CLOUD COMPUTING & BIG DATA ENGINEERING
MODEL PAPER
C PROGRAMMING
UNIT TEST-1

SCHEME: C-23 SUBJ CODE:CBD-106
MAX MARKS:40 TIME: 90Minutes

……

PART-A **16Marks**

Instructions:1) Answer all questions
2) First question carries 4marks, and each question of remaining carries 3 marks

1. a) Int is a Data type in C language.(True/False) (CO1)

b) 'a' is an example for _____ constant. (CO1)

c) scanf() is used for _____. (CO2)

d) Which one of the following is a Relational operator [ ] (CO2)

I)+ II)- III)* IV)>=

2) List any three data types of C language. (CO1)

3) Define a) Keyword b) Identifier c) Constant (CO1)

4) Write a sample program using Conditional operator? (CO2)

5) Distinguish between pre-increment and post-increment operators. (CO2)

PART-B 3X8=24Marks

Instructions:1) Answer all questions
2)Each question carries 8 Marks
3)Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer

6.a) Write the C-Programming structure and explain each part of it (CO1)
(Or)
b) Explain various generation of computers (CO1)

7.a) Explain Arithemetic, Relational, Logical operators with examples. (CO2)
Or
b) Evaluate the following C-Expression and write the final value (CO2)
X= ((2 + 6 / 2 + 3 * 6) – ((4 + 6) / 2 +5) /10) + 1) / 5.0

8. a) Illustrate Type Conversion techniques in detail (CO2)
Or
b) Write the C-program using formatted input and output functions. (CO2)

BOARD DIPLOMA EXAMINATIONS
DIPLOMA IN CLOUD COMPUTING & BIG DATA ENGINEERING
MODEL PAPER - END EXAMINATION
PROGRAMMING IN C

SCHEME: C-23 SUBJ CODE:CBD-106
MAX MARKS:80 TIME: 3HOURS

PART-A

Note: Answer all questions. Each question carries 3 marks 10 X 3=30M

1.	Define an identifier and write two valid identifiers	CO1
2.	Write a short note on type qualifiers	CO1
3.	Write the syntax of formatted output statement	CO2
4.	Write a program to print the biggest of two numbers using conditional operators	CO2
5.	Differentiate between break and continue	CO3
6	What is nesting? Give an example.	CO3
7	What is an array? how to declare an array?	CO4
8	List any three sting functions	CO4
9	Define a pointer. Write the syntax to declare a pointer variable	CO5
10	State the importance of "void"	CO5

PART-B

Note: 1. Answer any five question
2. Each question carries 10 marks 5 X 10=50M

11. Write the C-Programming structure and explain each part of it C01
12. Explain all the operators supported by C-language with examples CO2
13. Write a program to print the following pattern CO3

```
        1
    1   2   1
1   2   3   2   1
" "  up to nth level
```

14. Explain any four control statements in C-language. CO3
15. Write eight differences between structures and unions CO4
16. Write a C-program to input 3X4 matrix and print in the form of matrix CO4
17. Write a program to calculate the factorial of a function using recursive concept with the help of parameter passing and return value CO3 & CO5
18. Explain any four file handling functions. C05

C-23 CBD-107 ENGINEERING DRAWING

Blue Print

S.No	Unit Title	No. of Periods	Weightage Allocated	Marks wise distribution of weightage			Question wise distribution of weightage			CO'S Mapped
				R	U	AP	R	U	AP	
1	Use of Drawing Instruments, Free Hand Lettering and Dimensioning Practice	10	10	05	05	00	01	01	00	CO1
2	Principles of Geometric Constructions	15	15	00	00	15	00	00	02	CO2
3	Projections of points, lines, planes and solids	20	25	00	00	25	00	00	03	CO3
4	Sectional Views	20	10	00	00	10	00	00	01	CO4
5	Orthographic projection	25	20	00	00	20	00	00	02	CO5
Total		**90**	**80**	**05**	**05**	**70**	**01**	**01**	**08**	

UNIT TEST-I, C-23, I YEAR, EE-107

ENGINEERING DRAWING

TIME:90 MINUTES MAX MARKS: 40

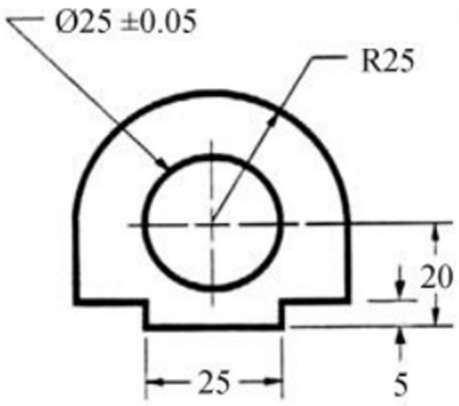
PART-A (4X5=20)

Instructions :

(1) Answer all questions. (2) Each question carries five marks. (3) All dimensions are in mm.

1. Write the following using single-stroke capital inclined letters of 14mm size **CO1**
   "ALL THE BEST FOR YOUR EXAMINATION"

2. The component and its dimensions are shown in the fig. below. Redraw it to a full scale adopting the recommendations of SP : 46–1988. **CO1**



3. Divide a line of length 60 mm into seven equal parts. **CO2**

4.. Construct regular pentagon of side 25 mm by any one method. **CO2**

PART-B **(2X10=20)**

5. . Draw an internal common tangent to two circles of radii 30 mm and 20 mm. **CO2**

6. . A circle of 50 mm diameter rolls along a line for one revoluation clock wise. Draw the locus of a point on the circumference of circle which is in contact with the line. **CO2**

7. Draw an involute to a circle of radius 20 mm. **CO2**

8. Draw a helix of pitch 60 mm on a cylinder of diameter of 50 mm. **CO2**

UNIT TEST-II, C-23, 1st YEAR,
CBD-107, ENGINEERING DRAWING

TIME:90 MINUTES **MAX MARKS: 40**

PART-A
(4X5=20M)

Answer all questions and each question carries four marks.

1. A point A is lying at 30 mm behind V.P and 60 mm below H.P. Draw its projections. **CO3**
2. A 60 mm long line pq has an end p at 20 mm above the H.P. and 30 mm in front of the VP. The line is inclined at 45^{o} to the HP. And 30^{o} to the VP. Draw its projections. **CO3**

3. A circular plane of diameter 60 mm is touching the VP with a point on its circumference. The plane is inclined at 45^o to VP and perpendicular to HP. The centre of the plane is 40 mm above HP. Draw its projections. **CO3**
4. A square prism 40 mm base side and height 60 mm is standing vertically on its square base 10 mm above HP and one of its rectangular faces making an angle of 60^o with V.P. Draw its projections. **CO3**

PART-B(2X10=20 M)

Answer any two questions and Each question carries ten marks

5. A pentagonal lamina of side 25 mm rest on the HP on one of its edges, such that the surface is inclined at 45^o to the HP, and the edge on which it rests is inclined at 60^o to the VP. Draw its projections **CO3**
6. A rectangular plane ABCD of size 40mm X 30mm is inclined to the HP at 30^O. Its shorter side AB is parallel to HP and inclined at 45^O to VP. Draw its projections. **CO3**

7. A hexagonal pyramid of base side 25 mm and height 60 mm is standing on HP with one of its base edges making an angle of 60o with VP and axis making an angle of 45^o with HP. Draw its projection. **CO3**
8. Draw the projections of a cone , base 30mm diameter and axis 50mm long resting on HP on a point of its base circle with the axis making an angle 45^{o}with HP and parallel to VP. **CO3**

UNIT TEST-III, C-23, 1st YEAR, EE-107,
ENGINEERING DRAWING

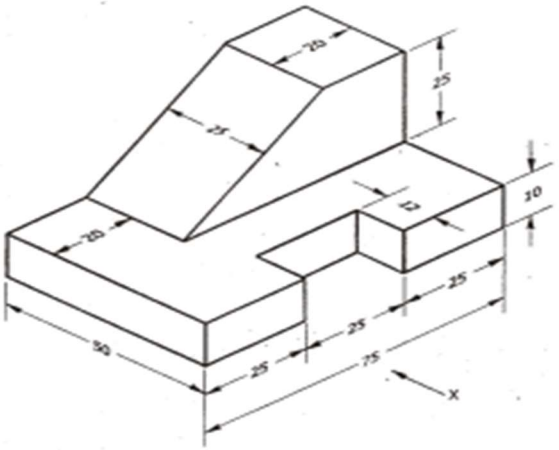
TIME:90 MINUTES MAX MARKS: 40

PART-A (4X5=20M)

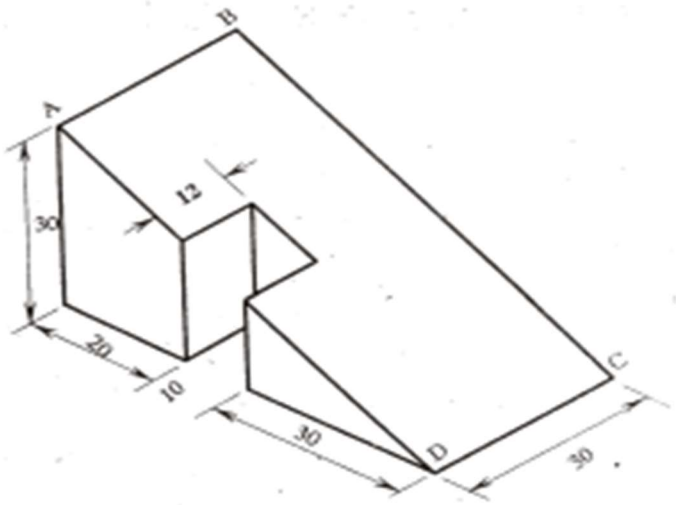
Answer all questions and each question carries four marks.

1. A triangular prism with a base side of 50 mm and height 70 mm is resting on one of its rectangular faces on HP with the axis perpendicular to VP. The prism is cut by a horizontal section plane passing through the axis. Draw front view and sectional top view of the prism. **CO4**

2. A square pyramid of base side 50mm and axis 75 mm long is resting on the ground with its axis vertical and sides of the base equally inclined to the VP. It is cut by a section plane perpendicular to VP inclined at 45° to HP and bisecting the axis. Draw its sectional top view. **CO4**
3. Draw the front view and top view of the following figure : **CO5**



4. Draw the front view and top view of the following figure **CO5**



PART-B **(2X10=20 M)**

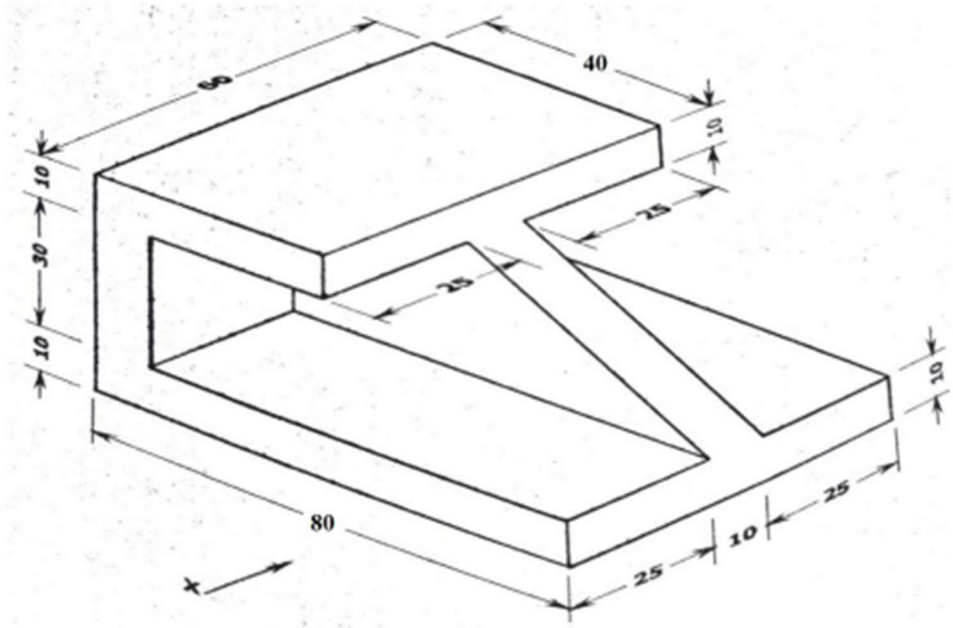
***Answer any Two questions, Each question carries tenmarks*.**

1. A pentagonal pyramid of base side 40 mm and height 80mm is resting on HP on its base with one of its base side parallel to VP. It is cut by a plane inclined at 30° to HP, perpendicular to VP and is bisecting the axis. Draw its front view, sectional top view and the true shape of section.

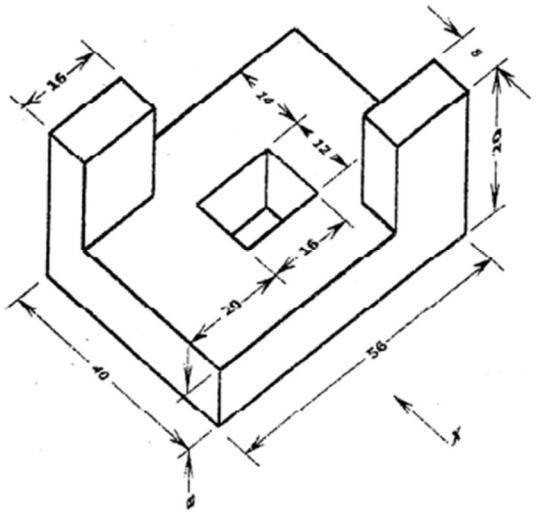
CO4

2. A cone of diameter 60 mm and height 70 mm is resting on ground on its base. It is cut by a section plane perpendicular to VP inclined at 45° to HP and cutting the axis at a point 40 mm from the bottom. Draw the front view , sectional top view and true shape. **CO4**

7. Draw the front view, side view and top view of the following figure: **CO5**



8. Draw orthographic views of front view and top view of the given isometric figure below. **CO5**



C-23-CBD-107

BOARD DIPLOMA EXAMINATIONS
MODEL QUESTION PAPER
DCBD – I-YEAR
CBD-107 :: ENGINEERING DRAWING

Time: 90 Minutes **Total Marks: 40**

Instructions: i. **All the dimensions are in mm**

ii. **Use first angle projections only**

iii. **Due weightage will be given for the dimensioning and neatness**

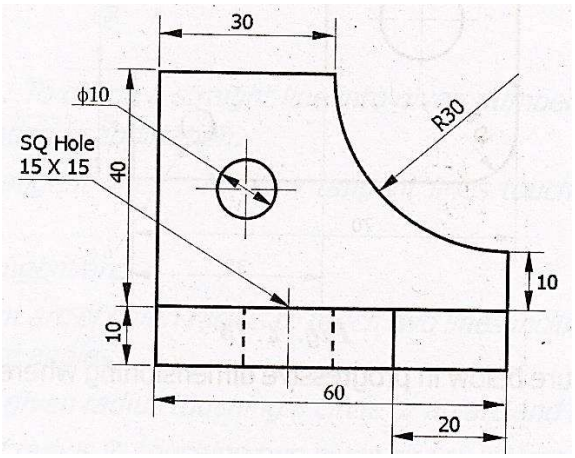
PART – A **05 x 04=20**

i. **Answer all the questions**
ii. **Each question carries FIVE marks**

1. Write the following in single stroke capital vertical lettering of size 10mm

   ORTHOGRAPHIC PROJECTIONS

2. Redraw the given fig. and dimension it according to SP-46:1988.Assume suitable scale



3. Draw internal common tangents to two unequal circles of radii 26mm and 20mm. The distance between the circles is 75mm.

4. Draw the projections of a point A lying on HP and 25mm in front of V.P.

PART – B10 X 04 = 40

i. **Answer any FOUR questions**

ii. **Each question carries TEN marks**

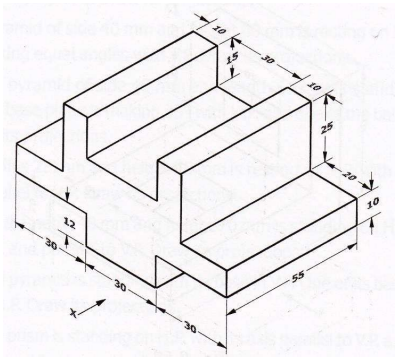
5.Draw the involute of a circle of diameter 30 mm and also draw a tangent to the curve at a distance of 60 mm from the centre of the circle.

6.A right circular cone of height 80 mm and base radius 60 mm is resting in the H.P. on one of its generators and its axis is parallel to V.P. Draw the projections of the solid.

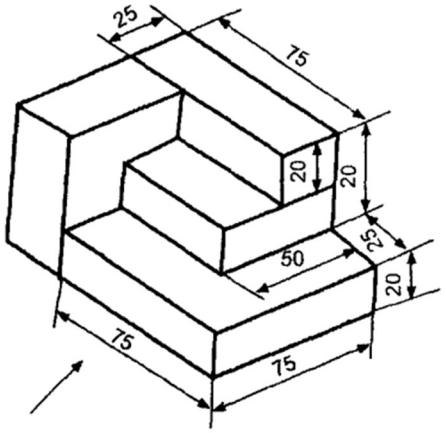
7.A cylinder with base 40mm diameter and 50mm long rests on a point of its base onHP such that the axis makes an angle of 30° with HP. Draw the projections of the cylinder.

8.A regular hexagonal prism of height 80 mm and base side 40 mm is resting in the H.P. on its base. It is cut by an auxiliary inclined plane of 60^0 inclination passing through the axis at a distance of 30 mm from the top base. Draw the sectional views of the solid and the true section.

9. Draw the front view, top view and left side view of the object shown in the fig.



10.Draw the front view, top view and left side view of the object shown in the fig.


25
75
20
20
25
50
20
75
75

CBD-110 (common to all branches) Computer Fundamentals Lab

Model Blue Print:

S.No.	Chapter/Unit Title	No. of sessions each of 3 periods duration	No.of Periods
1.	Computer hardware Basics	2	6
2.	Windows Operating System	2	6
3.	MS Word	8	24
4.	MS Excel	7	21
5.	MS PowerPoint	5	15
6.	Adobe Photoshop	6	18
	Total periods	**30**	**90**

I Year Internal Lab Examination

UNIT TEST - I
MODEL QUESTION PAPER
COMPUTER FUNDAMENTALS LAB

SCHEME: C-23 **SUBJ CODE: CBD- 111**

MAX MARKS:40 **Time:90Min**

……

1. Identify the internal hardware components of a PC and assemble them.
2. Identify the external components or peripherals of a PC and connect them.
3. Identify the components on motherboard.
4. Perform the process of placing processor on CPU slot.
5. Perform the process of removing and placing the RAM in the corresponding slot.
6. Identify the CMOS battery and test whether it is working it or not.
7. Find details of following:
   a) Operating System being used.
   b) Processor name
   c) RAM

d) Hard disk

8. Create a folder by your name, search a file or folder and find its path.
9. Draw the National Flag using MS Paint.
10. Create a word document that contains TEN names of your classmates (boys-5 & girls-5) and perform the following tasks:

    a) Save the document to your desktop.

    b) Sort the names in each list alphabetically.

    c) Set line spacing to 1.15.

    d) Use bullet points for the names in both lists separately.

I Year Internal Lab Examination

UNIT TEST - II

MODEL QUESTION PAPER

COMPUTER FUNDAMENTALS LAB

SCHEME: C-23 **SUBJ CODE: CBD- 111**

MAX MARKS:40 **Time:90Min**

……1.

Write individually addressed letters to your friends about the Republic Day celebration using Mail Merge.

2. Create a Word document about your college and insert page numbers in footer and College Name in header.
3. Create your class time table using Tables in MS Word.
4. Create a 2-page document about your College & insert hyperlinks for courses offered in the college and insert Bookmarks next to College Name.
5. Write individually addressed letters to your friends (at least 5 members) to intimate the External Examination time table using Mail Merge.
6. Write an equation $\frac{(x+y)^2}{(x-y)^2} = \frac{x^2+2xy+\ ^2}{x^2-2xy+y^2}$ in MS word.
7. Create the organizational structure of your college in MS Word.
8. Create a spreadsheet by totaling marks of 3 or more subjects, then calculate percentage and hence find grade based on boundary conditions of FIVE students:
   Grades O >= 90%, A >=80%, B >=70%, C >=60%, D >=50%, E >=40%, F <40%
9. Create a Excel spreadsheet for the following data, making sure that the cell marked with Category (A1) is pasted in cell A1 in the spreadsheet and perform the questions below.

Category (A1)	Product Name	Quantity	Inventory	Price per Unit	Total Price
Office Supplies	Binder	2	20	12.99	25.98
Office Supplies	Pencil	20	20	0.99	
Electronics	Samsung 4K Smart TV	1	5	399.00	
Electronics	Bluetooth Speakers	4	5	44.49	
Computers	Lenovo X230 12in Laptop	2	2	279.90	

a). Change the format of the “Total Price” column to “Currency” format.

b) Calculate Total Price by writing formula.

c) Turn on filtering for the table.

d) Sort the table by column “Category” from A to Z.

10. Create a spreadsheet to calculate Cumulative monthly attendance for a period of Three months.

I Year Internal Lab Examination

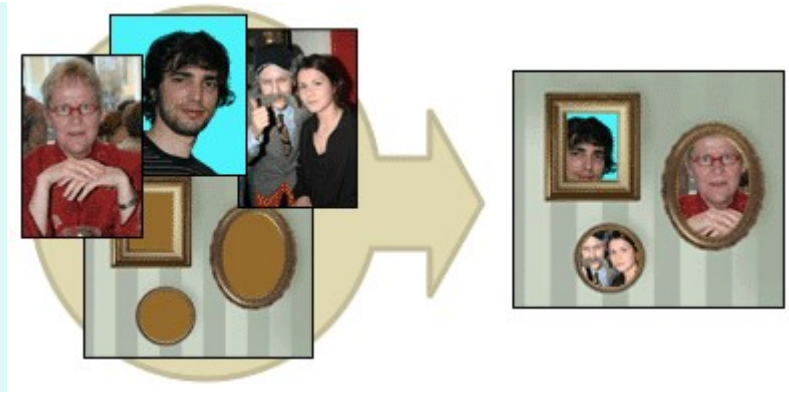
UNIT TEST - III
MODEL QUESTION PAPER
COMPUTER FUNDAMENTALS LAB

SCHEME: C-23 **SUBJ CODE: COMMON-111**
MAX MARKS:40 **Time:90Min**

……1.

Create a PowerPoint Presentation about your College in 5 slides only.

2. Create a PowerPoint Presentation on Computer Hardware in minimum 5 slides.
3. Create a PowerPoint Presentation on Computer Fundamentals with *Entrance, Emphasis* effects in minimum 5 slides.
4. Create a PowerPoint Presentation on any topic with special animation effects like *Entrance, Motion Paths & Exit.*
5. Resize the image using photoshop.
6. Change the background of a Photograph.
7. Edit an image by using
   a) Crop tool.
   b) Resize the image
   c) Save the new image with new name keeping original image as it is.
8. A Picture of two parrots (parrots.jpg) is given to you. Make anyone of one of the parrots in Black & White.
9. Convert a color image to monochrome and improve quality of photograph.
10. Copy three pictures and fit into the empty frames.



BOARD DIPLOMA EXAMINATIONS

DIPLOMA IN CLOUD COMPUTING & BIG DATA ENGINEERING

MODEL PRACTICAL QUESTION PAPER-YEAR END EXAM

COMPUTER FUNDAMENTALS LAB

SCHEME: C-23 **SUBJ CODE: CBD- 111**

MAX MARKS:60 **TIME: 3HOURS**

……

1. Identify the internal hardware components of a PC and assemble them.

2. Identify the external components or peripherals of a PC and connect them.

3. Write the procedure to create the files and folders
4. Write the procedure to access Calculator, Paint and Notepad application
5. Write the procedure to perform the following in MS Word
   (a) Change the Font Size
   (b) Change the Font Style
   (c) Change the Text Size
6. Write the procedure to perform the following in MS Word
   (a) Change the Font Color.
   (b) Use Various Text Alignment Options.
   (c) Format text in Bold, Italic and Underline.
7. Create the hierarchy of your family in MS Word.

8. Write the procedure to perform the following in MS Word:

   (a) Insert a Table
   (b) Add a Row
   (c) Add a column
   (d) Delete a Row
   (e) Delete a column
9. Write the procedure to use Equation $\frac{(x+y)^2}{(x-y)^2} = \frac{x^2+2xy+\ ^2}{x^2-2xy+\ ^2}$ and Symbols.
10. Write the procedure to perform the following in MS Excel

    (a) To Modify Column Width

    (b) To Modify Row Height

(c) Format text in Bold, Italic, and Underline.

11. Write the procedure to create charts and Graphs in MS Excel

12. Write the procedure to create simple Power Point Presentation on your college in Three slides.

13. Write the procedure to perform Animation on Text and Objects in your presentation.

14. Take a photographic image. Give a title for the image. Put the border. Write your names. Write the Name of Institution and Place.

15. Prepare a cover page for the book in your subject area. Plan your own design.

16. You are given a picture of a flower and associated background (Extract.jpg).Extract the Flower only from that and organize it on a background. Select your own background for organization.
17. You are given a picture (BrightnessContrast.jpg). Adjust the brightness and contrast of the picture so that it gives an elegant look.
18. You are given a picture (position.jpg). Position the picture preferably on a plain background of a color of your choice - Positioning include rotation and scaling.
19. Remove the arrows and text from the given photographic image(Filename: photo.jpg).
20. Type a word; apply the following effects. Shadow Emboss.