Sr.No.----------- Roll No.

TIME:03:00 Hrs. MAX.MARKS:75

INSTRUCTIONS:-

    1.Write your Roll no on the question paper

    2.Condidate should ensure that they have been provided with correct question paper.Complaints in this regard,if any,should made within 15 minutes of the commencement of exam.No complaint(s) will be entertained thereafter

    3.Attempt five(5) questions in all and Question No 1 is compulsory

    4.Students are required to attempt four questions selecting one question from each unit in addition to Q.No 1.

1.

(a) Determine the rank of matrix $\begin{bmatrix} 2 & 4 & 6 \\ 8 & 16 & 24 \\ 12 & 24 & 36 \end{bmatrix}$ 2

(b) Find Eigen value of matrix $A = \begin{bmatrix} 8 & -6 & 2 \\ -6 & 7 & -4 \\ -2 & -4 & 3 \end{bmatrix}$ 2

(c) Define Comparison test and Rabbe test   2

(d) If $u - \log \dfrac{x^6 + y^6}{x+y}$, Find the value $x\dfrac{\partial u}{\partial x} + y\dfrac{\partial u}{\partial y}$ 2

(e) Find the asymptotes of the curve $x^3+y^3=3axy$ point $(3a/2,3a/2)$ 2

(f) Find the Taylor Series of log sinx in power of (x-3)   2

(g) $\displaystyle\int_0^1\int_0^x \dfrac{dxdy}{x^2 + y^2}$ 3

UNIT-1

2.(a) If $y^{1/m}+y^{-1/m}=2x$ then show that   7 ½

$$\left(x^2 -1\right)y_{n+2} + (2n + 1)xy_{n+1} + (n^2 - m^2)y_n = 0$$

(b) Prove that for the ellipse $\dfrac{x^2}{a^2}+\dfrac{y^2}{b^2}=1, \rho = \dfrac{a^2b^2}{p^3}$,   7 ½

Where p in the perpendicular from the center upon the tangent at (x,y)

3.(a) If $u = \operatorname{cosec}^{-1}\left(\dfrac{x^{\frac{1}{2}}+y^{\frac{1}{2}}}{x^{\frac{1}{3}}+y^{\frac{1}{3}}}\right)^{\frac{1}{2}}$, show that $\cdot$ 7 ½

$$x^2\frac{\partial^2 u}{\partial x^2}+2xy\frac{\partial^2 u}{\partial x\partial y}+y^2\frac{\partial^2 u}{\partial y^2}=\frac{\tan u}{144}\left(13+\tan^2 u\right)$$

(b) Given $x+y+z= a$ find maximum value of $x^m y^n z^p$ 7 ½

UNIT-2

4.(a) Find by double integration ,the area lying inside the circle $r= a\sin\theta$ and outside the cardiod $r=a(1-\cos\theta)$
                                          7 ½

(b) Evaluate double integral by change of order of integration $\displaystyle\int_{0}^{4a}\int_{x^2/4a}^{2\sqrt{ax}} dy\,dx$ 7 ½

5.(a) Find the volume the tetrahedron bounded by co-ordinate planes and the plane $\dfrac{x}{a}+\dfrac{y}{b}+\dfrac{z}{c}=1$ 7 ½

(b) Express $\displaystyle\int_{0}^{1}x^m\left(1-x^n\right)^p dx$ in terms of Gamma function and hence evaluate $\displaystyle\int_{0}^{1}x^5\left(1-x^3\right)^{10}dx$ 7 ½

UNIT-3

6. (a) Find the Eigen value and Eigen vector of matrix $\begin{bmatrix} -2 & 2 & -3 \\ 2 & 1 & -6 \\ -1 & -2 & 0 \end{bmatrix}$ 7 ½

(b) Find the values of a and b for which equations x+ay+z=3 ,x+2y+2z=b, x+5y+3z=9 are consistent. Find all possible solution   7 ½

7 (a) Verify Cayley- Hamilton theorem for the matrix

$A= \begin{bmatrix} 7 & 2 & -2 \\ -6 & -1 & 2 \\ 6 & 2 & -1 \end{bmatrix}$

(b) Find Inverse by Elementary Transformation $A= \begin{bmatrix} 8 & 4 & 3 \\ 2 & 1 & 1 \\ 1 & 2 & 1 \end{bmatrix}$ 7 ½

UNIT-4

8. (a)Discuss the Nature of series $1+\dfrac{2^2}{3^2}+\dfrac{2^2\,4^2}{3^2.5^2}+\dfrac{2^2 4^2.6^2}{3^2.5^2.7^2}+\ldots\ldots\ldots\ldots\ldots\ldots$ 7 ½

(b) Discuss Nature of series $u_n = \sum\dfrac{\sqrt{n+1}-\sqrt{n}}{n^p}$ 7 ½

9. (a)Discuss the Nature of Series $1+\dfrac{\alpha\beta}{1.\gamma}x+\dfrac{\alpha(\alpha+1)\beta(\beta+1)}{1.2.\gamma(\gamma+1)}x^2+\ldots\ldots\ldots\ldots\ldots$ 7 ½

(b) . Discuss convergence or divergence $u_n = \sum\left[\left(n^3+1\right)^{\frac{1}{3}}-n\right]$ 7 ½

B.TECH. (CE/CSE/ME/EEE) - 1ST SEMESTER EXAMINATIONS; DEC.-2017
(SUBJECT: ENGINEERING MATHEMATICS; PAPER CODE – 13010101/13020101/13030101/13160101)

Time: 03:00 Hrs.   **Max Mark: 50**

Instructions:
1. Write your Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with the correct question paper. Complaints in this regards, If any, should be made within 15 minutes of the commencement of the exam. No complaint(s) will be entertained thereafter.
3. Each Part is Compulsory. Marks are indicated against each question.
4. Draw the diagram wherever required.

PART-A (OBJECTIVE TYPE QUESTIONS OMR SHEETS)

ATTEMPT ALL QUESTIONS:-

Q. 1. Rank of a matrix $A= \begin{bmatrix} 1 & 2 & 3 & 4 \\ 2 & 4 & 6 & 8 \\ 4 & 8 & 12 & 16 \end{bmatrix}$:-   **(2)**

    a) 3   **b)** 2   **c)** 1   **d)** None

Q. 2. How many the Eigen value of the matrix $A== \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$:-   **(2)**

    a) 3   **b)** Less than 3   **c)** 1   **d)** None

Q. 3. Evaluate $\int_0^1 \int_0^2 (x+y)\,dydx$: –   **(2)**

    a) 1   **b)** 2   **c)** 3   **d)** 3/2

Q. 4. *Evaluate* $\int_0^{\pi/2} sin^2x \cos^4x \, dx$:-   **(2)**
    a) 1/2   **b)** $\frac{\pi}{32}$ **c)** 1   **d)** None

Q. 5. Find rank of the matrix $A=\begin{bmatrix} 1 & 0 \\ 0 & 0 \end{bmatrix}$:-   **(2)**
    a) 0   **b)** 1   **c)** 2   **d)** 3

Q. 6. Find the solution of x and y , 3x+4y=1 and 12x+16y=2:-   **(1)**
    a) no sol   **b)** ∞   **c)** x=1 y=2   **d)** does not exits

Q. 7. What is the condition of unique solution:-   **(1)**
    a) C=A   **b)** C≠A   **c)** C>A   **d)** C<A

Q. 8. If A Non Matrix is 2000×144 type, What is the Max and Min Rank of the matrix:-   **(1)**
    a) 2000,0   **b)** 144,0   **c)** 144,1   **d)** None

Q. 9. If 3x+2y+z=10 Then How many solutions of x,y and z:-   **(1)**
    a) 2   **b)** 3   **c)** 0   **d)** ∞

Q. 10. How many Asymptotes of the equation $x^2y^2 - x^2y - yx^2 + x + y + 1=0$:-   **(1)**
    a) 3   **b)** 4   **c)** At most 4   **d)** 2

Q. 11. Find the Rank of the matrix $A = \begin{bmatrix} 3 & 1 & 2 \\ 6 & 2 & 4 \\ 3 & 1 & 2 \end{bmatrix}$:- (1)

    a) 3   b) 1   c) 4   d) None

Q. 12. If $y = x^3 \log x$, Then value of y_4:- (1)

    a) 6/x   b) 0   c) 1/x   d) $2/x^2$

Q. 13. $y = a \cos(\log x) + b \sin(\log x)$ then the value of $x^2 y_{n+2} + (2n+1)xy_{n+1} + (n^2+1)y_n$:- (1)

    a) 1   b) 0   c) -1   d) -y

Q. 14. Find the radius of curvature of the function $s = a \log \tan\left(\frac{\pi}{4} + \varphi/2\right)$:- (1)

    a) $a \sec\varphi$ b) $a \tan\varphi$ c) Not defined   d) 3

Q. 15. $x\frac{\partial u}{\partial x} + y\frac{\delta u}{\delta y} = $ ....by Euler Theorem:- (1)

    a) n (n-1)   b) nu   c) n(n-1)(n-2)   d) None

Q. 16. If $rt - s^2 < 0$ at a point $P = (a, b)$, then P is a:- (1)

    a) Maximum point   b) Minimum point   c) Neither max nor Min   d) None

Q. 17. Langrange method is applicable for:-

    a) 3 or more variable   b) only 3 variable   c) only 1   d) All Types variable

Q. 18. Gama ½ = ...:- (1)

    a) $\sqrt{\pi}$ b) 1   c) 1/2   d) None

Q. 19. If $x = r\cos\theta$, $y = r\sin\theta$ then $\left(\frac{\partial r}{\partial x}\right)^2 + \left(\frac{\partial r}{\partial y}\right)^2 = $ ....:- (1)

    a) -1   b) 1   c) 0   d) 2

Q. 20. Find the value of B(2,4):- (1)

    a) 1/20   b) 1/25   c) 2   d) None

PART-B (DESCRIPTIVE TYPE)

SHORT TYPE QUESTIONS (attempt only FIVE questions):-   (5X2=10)

Q.1. Examine for maxima and minima value for sinx + siny+ sin(x+y) where $0 < x, y < \pi$.

Q.2. Find the radius of Curvature at any point of curve $x = a\cos^3\theta$ and $y = a\sin^3\theta$.

Q.3. Verify Cayley Hamilton theorem and find A^{-1} ,where $A = \begin{bmatrix} 2 & 1 & 1 \\ 0 & 1 & 0 \\ 1 & 1 & 2 \end{bmatrix}$.

Q.4. Find the Eigen value and Eigen vector of $A = \begin{bmatrix} 2 & 1 & 1 \\ 0 & 1 & 0 \\ 1 & 1 & 2 \end{bmatrix}$.

Q.5. Prove that the value of Gamma ½ is $\sqrt{\pi}$.

Q.6. Find the Rank of a matrix $A = \begin{bmatrix} 1 & 2 & 3 & 2 \\ 2 & 3 & 5 & 1 \\ 1 & 3 & 4 & 5 \end{bmatrix}$.

Q.7. Evaluate $\int_1^2 \int_0^x \frac{dydx}{x^2 + y^2}$.

Q.8. Briefly explain what is the evidence for the transmission of calculus from India to Europe in the 16th c, in terms of (i) opportunity, (ii) motivation, and (iii) circumstantial evidence.

Q.1. If $y^{1/m}+y^{-1/m}= 2x$, Show that $(x^2-1)y_{n+2}+(2n+1)xy_{n+1}+(n^2-m^2)y_n= 0$.

Q.2. Find the area by double integration lying inside the circle $r = a\sin\theta$ and outside the Cardioid:- $r=a(1-\cos\theta)$.

Q.3. Change of order of order of integration and then evaluate the same:-

$$\int_0^1\int_{x^2}^{\infty} xy\,dy\,dx$$

Q.4. Find the Inverse of the matrix $A= \begin{bmatrix} 0 & 1 & 2 \\ 1 & 2 & 3 \\ 3 & 1 & 1 \end{bmatrix}$,By Elementary Transformation.

Q.5. What is non-textual evidence? Give an example to explain how it can be more reliable than textual evidence.

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B.TECH. (CE/CSE/ME/ECE) – 1ˢᵗ SEMESTER EXAMINATION; DECEMBER.-2017
(SUBJECT- ENGINEERING PHYSICS-I; PAPER CODE- 13010102/13020102/13030102/13040102)

Time : 03:00 Hours   Maximum Marks – 75

Instruction :
1. Write your Roll No. on the question paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaints in this regard, if any, should be reported to the invigilator on duty in the examination hall within 15 minutes of the commencement of the exams. No complaints shall be entertained thereafter.
3. Attempt five (05) questions in all Q.No.1. is compulsory. Students are required to attempt four questions selecting one from each unit in addition to Q.No.1. Marks are indicated against each
4. Draw diagram whenever required.

Q. 1   Write Short Notes on   (2.5 x 6 – 15)
(a)   Resolving power of grating
(b)   Double refraction
(c)   Meissner effect
(d)   Applications of laser
(e)   Dispersion in optical fiber
(f)   Polarization in dielectric materials

(Unit – 1)

Q. 2 (a) Explain the formation of fringes in Michelson's interferometer with proper ray diagram. Discuss its one application.   **(12)**

Q. 2 (b) In a Newton's ring experiment, the diameters of 5th and 25th rings are 0.3 cm and 0.8 cm respectively. Find the wavelength of light, given that radius of curvature of plano-convex lens is 100 cm.   **(3)**

OR

Q. 2 (a) Discuss formation of spectral lines by diffraction due to single slit. Drive expression for intensities of secondary maxima in diffraction pattern.   **(15)**

(Unit – 2)

Q. 3 (a) Explain the construction and working of Nicol prism with proper diagram. **(7.5)**

Q. 3 (b) Discuss the production of different types of polarized lights.   **(7.5)**

OR

Q. 3 Discuss in details about BCS theory of superconductors. What are the applications of superconducting materials?   **(15)**

(Unit – 3)

Q. 4 (a) Discuss in details about the construction and working of Semiconductor Laser. **(10)**

Q. 4 (b) Discuss various applications of Laser. **(5)**

OR

Q. 4 (a) How light is propagated through optical fibers? Drive expression for numerical aperture and acceptance angel in optical fiber. **(10)**

Q. 4 (b) Discuss various modes of propagation in optical fibers. **(5)**

(Unit – 4)

Q. 5 (a) State Gauss law in dielectric materials. Drive expression for energy stored in a uniform electric field. **(10)**

Q. 5 (b) Discuss different polarization mechanisms in dielectric materials. **(5)**

OR

Q. 5 (a) What will be the difference in the rates of two identical clocks, one of which ids moving on a spaceship with velocity 5.25×10^5 m/s relative to the other. **(3)**

Q. 5 (b) Explain the phenomena of length contraction and time dilation as a consequences of Lorentz transformation. **(12)**

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B.TECH. (CE/CSE/ME/EEE) - 1ST SEMESTER EXAMINATIONS; DEC.-2017
(SUBJECT: ENGINEERING PHYSICS; PAPER CODE – 13010102/13020102/13030102/13160102)

Time: 03:00 Hrs.   **Max Mark: 50**

Instructions:
1. Write your Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with the correct question paper. Complaints in this regards, If any, should be made within 15 minutes of the commencement of the exam. No complaint(s) will be entertained thereafter.
3. Each Part is Compulsory. Marks are indicated against each question.
4. Draw the diagram wherever required.

PART-A (OBJECTIVE TYPE QUESTIONS OMR SHEETS)

ATTEMPT ALL QUESTIONS:-

Q. 1. The Phenomenon which cannot be explained on the basis of wave theory of light is:-   **(1)**
a) Polarization   b) Photoelectric effect   c) Diffraction   d) Interference

Q. 2. In Newton's rings experiment, the diameter of dark ring in reflected system is:-   **(1)**
a) Directly proportional to the square root of odd natural number
b) Directly proportional to the square root of even natural number
c) Directly proportional to the square root of natural number
d) Inversely proportional to the square root of natural number

Q. 3. In Michelson Interferometer, the shape of fringes depends on:-   **(1)**
a) Distance of source from compensating plate
b) Distance of semi-silvered plate from compensating plate
c) Distance of semi-silvered plate from the telescope
d) The inclination between the two mirrors

Q. 4. A diffraction pattern is obtained using a beam of red light. What happen to diffraction pattern when red light is replaced by blue light:-   **(1)**
a) No change   b) Bands disappear
c) Diffraction bands become narrower and crowded together
d) Bands become broader and farther apart

Q. 5. The resolving power of a grating:-   **(1)**
a) Increases as the order of spectrum decreases
b) Increases as the total number of lines ruled on the grating decreases
c) Increases as the total number of lines ruled on the grating increases
d) Increases as the grating element decreases

Q. 6. Circularly polarized light is passed through quarter wave plate. On emergence, it is examined through a rotating Nicol, the emergent light will show:-   **(1)**
a) No variation in intensity
b) The variation of intensity with minimum zero
c) The variation of intensity with minimum non zero
d) The variation of intensity between maximum and minimum

Q. 7. The thickness of a half wave plate of quartz for a wavelength of 5000A° and μ_e=1.553 & μ_o=1.544 is:-   **(1)**
a) 0.0278 mm   b) 0.0298 mm   c) 0.0178 mm   d) 0.0198 mm

P.T.O.

Q. 8. A material in superconducting state exhibits:-
a) Infinite resistivity and perfect diamagnetism
b) Infinite conductivity and perfect diamagnetism
c) Infinite resistivity and perfect paramagnetism
d) Infinite conductivity and perfect paramagnetism

Q. 9. The critical magnetic field for a super conductor:- (1)
a) Increases with the increase of temperature   b) Does not varies with temperature
c) Increase with decreasing temperature   d) Varies as fourth power of temperature

Q. 10. BCS Theory of super conductivity satisfactorily explain:- (1)
a) Type II super conductor   b) Type I super conductors
c) Both type I and type II super conductors   d) None of the above

Q. 11. The population inversion in He – Ne Laser is produced by:- (1)
a) Photon excitation   b) Chemical excitation
c) Inelastic atomic collision   d) Direct conversion

Q. 12. The directionality of Laser beam is measured by:- (1)
a) The divergence angle of the beam with distance from the source
b) Visibility of interference fringes
c) The size and aperture of the Laser source
d) Nature of lasing medium

Q. 13. The coherence length for a light source is 2.5 cm. Its coherence time is:- (1)
a) 8×10^{-9} sec.   b) 8×10^{-10} sec.   c) 8×10^{-11} sec.   d) 8×10^{-7} sec.

Q. 14. In an optical fiber, the relation between the refractive index of core (n_1) and refractive index of cladding (n_2) is:- (1)
a) $n_1 = n_2$ b) $n_1 > n_2$ c) $n_1 < n_2$ d) $n_1 >> n_2$

Q. 15. In optical fiber, the dispersion means:- (1)
a) Pulse distortion   b) Pulse narrowing   c) Pulse broadening   d) Pulse rise time

Q. 16. In a dielectric medium, the electric displacement (D) and electric intensity (E) are related as:- (1)
a) $D = \varepsilon_0 E$ b) $D = \varepsilon_r \varepsilon_0 E$ c) $D = \varepsilon_0 E/\varepsilon$ d) $D = \varepsilon_r E$

Q. 17. Dielectric susceptibility has same dimension as of:- (1)
a) Electric polarization   b) Electric displacement
c) Relative permittivity   d) Absolute permittivity

Q. 18. The energy stored per unit volume in a dielectric in electrostatic field is:- (1)
a) $(1/2) \varepsilon_r K E^2$ b) $(1/2) \varepsilon_r E^2$ c) $(1/2) \varepsilon_0 E^2$ d) $(1/2) D. E$

Q. 19. Clausius Mosotti equation relates:- (1)
a) Dielectric susceptibility with atomic polarizability
b) Dielectric susceptibility with electric polarization
c) Electric displacement with atomic polarizability
d) Relative permittivity with atomic polarizability

Q. 20. The kinetic energy of a particle is equal to its rest mass energy. The velocity of particle is:- (1)
a) 0.5 c   b) 0.866 c   c) c   d) 0.766 c

Q. 21. A sphere in an inertial frame of reference moving with high velocity in X – direction appear to an observer in stationary frame as:- (1)
a) Sphere   b) Ellipse with minor axes in Y-direction
c) Ellipse with minor axes in X-direction   d) Ellipse with major axes in X-direction

Q. 22. Experimental evidence in favor of time dilation is:- (1)
a) Decay of muons   b) Nuclear fission   c) Pair production   d) e/m measurement

Q. 23. In an optical fiber, V number can be reduced by:- (1)
a) Increasing numerical aperture   b) Reducing numerical aperture
c) Does not depend on numerical aperture   d) Increasing the diameter of the fiber

Q. 24. Active material for a Ruby Laser is:- (1)
a) Ne   b) Cr^{+++} c) Al_2O_3 d) GaAs

Q. 25. Lasers are used in alignment of pipes because:- (1)
a) They are coherent and highly directional   b) They are coherent and monochromatic
c) They are coherent and highly intance   d) They are monochromatic and highly intance

PART-B (DESCRIPTIVE TYPE)

SHORT ANSWER TYPE QUESTIONS (attempt only THREE questions):- (3x3=9)

Q.1. Explain Rayleigh criteria for limit of resolution. On what factors, the resolving power of a plane transmission grating depends?

Q.2. Describe the action of Half shade device in a Polarimeter.

Q.3. Draw energy level diagram of He – Ne Laser and explain its working.

Q.4. Derive Gauss law in presence of dielectrics.

SHORT ANSWER TYPE QUESTIONS (attempt only THREE questions):- (3X2=6)

Q.5. Differentiate between soft and hard super conductors.

Q.6. Describe step index and graded index fibers. Explain two points of difference between them.

Q.7. Using addition of velocity relation, justify the second postulate of special theory of relativity.

Q.8. Explain the concept of local molecular fields in solids. Write Lorentz field equation.

LONG ANSWER TYPE QUESTIONS (attempt any ONE question):- (1x10=10)

Q.9. Explain with necessary theory, how you will determine the refractive index of a transparent liquid by Newton's rings. Derive the formula used.

Q.10. What are the postulates of special theory of relativity? Derive an expression for the variation of mass with velocity.

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B.TECH.(ME/CSE/CE/ECE)– 1ˢᵗ SEMESTER EXAMINATION; DECEMBER.-2017
(SUBJECT- ESSENTIAL COMMUNICATION - 1 ; PAPER CODE- 13010103/13020103/13030103/13040103)

Time : 03:00 Hours   Maximum Marks – 75

Instruction :
1. Write your Roll No. on the question paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaints in this regard, if any, should be reported to the invigilator on duty in the examination hall within 15 minutes of the commencement of the exams. No complaints shall be entertained thereafter.
3. Attempt five (05) questions in all Q.No.1. is compulsory. Students are required to attempt four (4) questions selecting one question from each unit in addition to Q.No.1. Marks are indicated against each question.
4. Draw diagram wherever required.

Q1 . Answer the following: (15)
a) Give the synonyms of:
i) Enormous; ii) Goods
b) Give antonyms for:
i) Introvert; ii) Consistent
c) Make a word using following prefixes:
i) Macro-; ii) Pro-
d) Make a word using following suffixes:
i) -fy; ii) -ental
e) Give one word substitution for the following:
i) One who feeds on human flesh. ii) One who cannot be correct.
iii) A place for grains.
f) Give the adjective forms for the word 'benefit'.
g) Give the meaning of following homophones and use them in your own words:
i) Illusion – Allusion
ii) Principle – Principal
iii) Complement-Compliment

UNIT- I

Q2 . Answer the following: (15)
i) Differentiate between technical and general communication.
ii) Explain in brief the process of communication with the help of diagram.

OR

Q3 . Define different types of sentences on the bases of function. State whether the following sentences are declarative, exclamatory, imperative, interrogative or negative: (15)
i. Have a good time at the picnic.
ii. Boy, am I tired!
iii. Ravi is a student.
iv. What a beautiful painting!
v. Stay in your seat.
vi. Where do you live?
vii. My father works at the newspaper.
viii. Please pass the salt.
ix. Do you want to play?
x. He plays piano.

UNIT- II

Q4. Discuss briefly the three types of sentences on the bases of structure. State whether he following sentences are compound or complex: (15)
   i. The house was destroyed in the fire, but the whole family was saved.
   ii. If I do not get this job, I will start a business.
   iii. Walking through the wood, he saw a fox that was following him.
   iv. He said that he was so disappointed that he would not try again.
   v. The men who rule the world with their pens are mightier than those who rule the world with their swords.
   vi. The evil that men do lives after them.
   vii. All that glitters is not gold.
   viii. Neither the color nor the design of this cloth appeals to me.
   ix. I washed my hand before I ate breakfast.
   x. Here is the money that I owe you, and I am happy to be free of debt.

OR

Q5. What is a Pronoun? Define different types of pronoun with the help of examples. (15)

UNIT- III

Q6. What is a prepositional verb? Explain with the help of two examples. Choose the correct preposition in each of the following sentences: (15)
   i. He is a good human being. You can always rely (on/in) him.
   ii. He is always boasting (over/about) how good a guitarist he is.
   iii. The online game is aimed (by/at) teenagers and young adults.
   iv. My wife has passed her driving test and has applied (for/with) her license.
   v. I liked English at school, but I was terrible (at/in) French.
   vi. The careers officer will provide you (with/from) all the relevant information about the job

OR

Q7. Define conjunction. Use appropriate paired conjunctions (both....and /not only....but also /either.....or / neither......nor) to combine following pair of sentences: (15)
   1. He does not have a pen. He does not have paper.
   2. Ron enjoys horseback riding. Bob enjoys horseback riding.
   3. You can have tea, or you can have coffee.
   4. Arthur is not in class today. Ricardo is not in class today.
   5. We can fix dinner for them here, or we can take them to a restaurant.

UNIT- IV

Q8. Describe briefly different barriers to communication leading to the breakdown of interpersonal communication. Discuss ways to overcome interpersonal barriers to communication. (15)

OR

Q9. **Fill in the blanks with the correct gerund, participle and infinitive of the words in the bracket:** (15)
   i. (Write) essays is a good way to improve one's English.
   ii. Despite his age, the old man enjoys (jog) daily.
   iii. (Disturb) by the scream, I went out to investigate.
   iv. It is difficult to take photographs on a (move) bus.
   v. It is too late for us (help) the heart patient.
   vi. The (break) glasses are swept into the drain.
   vii. (Terrify) by the explosion, the crowd ran helter-skelter.
   viii. We forced her (take) the medicine.
   ix. As for me, I prefer (play) snooker with my friends to (fish) by the river.
   x. The lady (wear) a red T-shirt is the badminton champion.

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B.TECH. (CE/CSE/ME/EEE) - 1ˢᵀ SEMESTER EXAMINATIONS; DEC.-2017
(SUBJECT: ESSENTIAL COMMUNICATION; PAPER CODE – 13010103/13020103/13030103/13160103)

Time: 03:00 Hrs.   Max Mark: 50

Instructions:

1. Write your Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with the correct question paper. Complaints in this regards, If any, should be made within 15 minutes of the commencement of the exam. No complaint(s) will be entertained thereafter.
3. Each Part is Compulsory. Marks are indicated against each question.
4. Draw the diagram wherever required.

PART-A (OBJECTIVE TYPE QUESTIONS OMR SHEETS)

ATTEMPT ALL QUESTIONS:-

Q. 1. Find the suitable opposite of 'GIANT':-   **(1)**
    a) Soft   b) Average   c) Tiny   d) Weak

Q. 2. Find the suitable opposite of 'ARTIFICIAL':-   **(1)**
    a) Red   b) Natural   c) Truthful   d) Solid

Q. 3. Find the word which express best, "SKILLED":-   **(1)**
    a) Crafty   b) Expert   c) Armature   d) Hulk

Q. 4. Find the word which express best, "ERROR":-   **(1)**
    a) Misadventure   b) Misgiving   c) Ambiguity   d) Blunder

Q. 5. A person interested in collecting, studying and selling of old things:-   **(1)**
    a) Antiquarian   b) Junk-dealer   c) Crank   d) Archeologist

Q. 6. Room used to conduct experiments in:-   **(1)**
    a) Laboratory   b) Library   c) Hospital   d) Workshop

Q. 7. When the examinations were over *Anil and me* went to our native town:-   **(1)**
    a) me and Anil   b) Anil and I   c) I and Anil   d) No improvement

TRUE / FALSE Type Questions:-

Q. 8. Paragraph is combination of sentences including coherence among sentences:- **(1)**
    a) True   b) False   c) Partially True

Q. 9. Communication is one way process:-   **(1)**
    a) True   b) False   c) Partially True

Q. 10. Homonyms are the words of similar sound but dissimilar spelling and meaning:- **(1)**
    a) True   b) False   c) Partially True

ASSERTIVE - REASONING Type Questions:-

Q. 11. DISTANCE:MILE:-   **(1)**
    a) liquid:litre   b) bushel:corn   c) weight:scale   d) fame:television

Q. 12. TEN:DECIMAL:-   **(1)**
    a) seven:septet   b) four:quartet   c) two:binary   d) five:quince

ASSERTIVE - REASONING Type Questions:-

Find the suitable Passive voice from the given options:-

Q. 13. They greet me every morning:- (1)
   a) Every morning I was greeted cheerfully
   b) I am greeted cheerfully by them every morning
   c) I am being greeted cheerfully by them every morning
   d) Cheerful greeting is done by them every morning to me

Q. 14. In a paragraph, topic sentence is:- (1)
   a) Topic   b) Theme   c) Central idea   d) An idea

Q. 15. She .... go tomorrow:- (1)
   a) Can   b) Will   c) Shall   d) Would

Q. 16. Identify the tense of the sentence 'They have played match':- (1)
   a) Present perfect
   b) Present perfect continuous
   c) Past perfect continuous
   d) Past perfect

Change the following sentence into indirect speech:-

Q. 17. Romio said to Yogi, "Do you know about Shakespearean idea of love?":- (1)
   a) Romio said Yogi that do you know about Shakespearean idea of love
   b) Romio told Yogi that you know about Shakespearean idea of love
   c) Romio asked Yogi if he knew about Shakespearean idea of love
   d) Romio told Yogi that did you know about Shakespearean idea of love?

MATCHING Type Questions:-

Q. 18. a) A lot of money has been   i)   the theater tonight?
        b) How about going to   ii)   the supernatural.
        c) How clever of you to   iii) wasted on the project
        d) She is interested in   iv)   solve the problem so quickly   (1)

   a) a-i, b-ii, c-iii, d-iv   b) a-iv, b-ii, c-i, d-iii   c) a-iii, b-i, c-iv, d-ii   d) a-iv, b-i, c-ii, d-iii

Q. 19. a) If I married you,   i)   if he hadn't helped me.
        b) If my nose were a little longer, ii)   I would have told you.
        c) I would have been in bad trouble iii) I would be quite beautiful.
        d) If you had asked me,   iv)   we would both be happy.:-   (1)

   a) a-iv, b-iii, c-i, d-ii   b) a-iv, b-ii, c-iii, d-i   c) a-ii, b-iv, c-i, d-iii   d) a-iv, b-i, c-ii, d-iii

Fill in the blank Type:-

Fill the suitable preposion in the blank:-

Q. 20. It has been raining .... morning:- (1)
   a) In   b) From   c) Since   d) For

Fill the suitable conjunction in the blank:-

Q. 21. He is so weak .... he cannot walk:- (1)
   a) That   b) Because   c) And   d) So that

Q. 22. I do not know .... he lives:- (1)
a) That   b) Because   c) And   d) Where

Fill the suitable article in the blank:-

Q. 23. She is .... honest student:- (1)
a) A   b) An   c) The   d) No article

Q. 24. ... Hindustan Times is very popular newspaper in Delhi:- (1)
;) A   b) An   c) The   d) No article

Sequencing Type Question:-

Q. 25. We have to:- (1)
P :as we see it
Q :speak the truth
R :there is falsehood and weakness
S :even if all around us

The Proper sequence should be
a) RQSP   b) QRPS   c) RSQP   d) QPSR

PART-B (DESCRIPTIVE TYPE)

Q.1. **Short Notes Type Questions:-**
a) Write a note on the process of Communication. (2)
b) Note down the features of technical communication. (2)
c) Write a letter to the Secretary, Delhi Jal Board, West Delhi, for the problem of contaminated water supply in your area. Enhance the necessary details. (2)

Q.2. **Discriminatory / Differentiation Questions:-**
a) Differentiate report and proposal. (1.5)
b) Clarify the distinctions between block and modified layout of the letter. (1.5)

Q.3. **Interpretation Questions:-**
a) Put a brief piece of writing on your experiences of SYNERGY – 2017 in SGT. (1.5)
b) Draft a paragraph to express your views on the role of an engineer for the growth of existing Indian society. (1.5)

Q.4. **Definitions / Concept Based Questions:-**
a) Define syllable. (1)
b) What is proposal? (1)
c) What is active listening? (1)

Q.5. **Problem Based Questions:-** (5x1=5)
Read the following passage carefully and answer the questions;
Scientist aims for saying one thing at a time, unambiguous manner and with clarity. For this, he simplifies and jargonizes the common language. He uses common language in such way that it opens only single interpretation in denotative manner. And, when he finds common words and syntax are precise for his purpose, he invents a new technical language, jargon, and specially designed for expressing the limited meaning related to the profession. Huxley

says that at its most and perfect level, scientific language stops to be matter of words; but it becomes mathematics in denotative manner. Literary artist purifies common language in quite different manner. In contrast to scientific expression 'say one thing at one time', literary artist does not aim for it. Since, human life is lived at many levels in a same tin and has many interpretations. Literature is a tool that reports various facts of life including their significance. That literary person takes common word to purify them, he does so in such manner that language becomes capable of convey the meaning different to the single dimensional language of particular science. Literary language has multiple significances related to human experiences on both private level and public level.

Questions:-
a) What does scientist do with common language?
b) In what manner scientist appears different to literary artist to modify common language?
c) What do mean by 'denotative manner' in the above passage.
d) Point out the major difference between scientific and literary language.
e) Give the summary of the passage.

Q.6. Long Essay Type Questions:- (1x5=
What is communication? Explain various types and flow of communication.
OR
What do you mean by formal letter and explain its structure various other types of letters.

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B.TECH. (CE/CSE/ME/EEE) - 1ST SEMESTER EXAMINATIONS; DEC.-2017
(SUBJECT: GENERAL PROFICIENCY; PAPER CODE – 13010112/13020112/13030112/13160110)

Time: 03:00 Hrs.

Max Mark: 50

Instructions:

1. Write your Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided with the correct question paper. Complaints in this regards, If any, should be made within 15 minutes of the commencement of the exam. No complaint(s) will be entertained thereafter.
3. Each Part is Compulsory. Marks are indicated against each question.
4. Draw the diagram wherever required.

PART-A (OBJECTIVE TYPE QUESTIONS OMR SHEETS)

In questions given below out of four alternatives, choose the one which can be substituted for the given word/sentence:-

Q. 1. One who does not believe in God:- **(1)**
   a) Aquatic   b) Alien   c) Audible   d) Atheist

Q. 2. One who walks on foot:- **(1)**
   a) Pedestrian   b) Psychology   c) Pedagogy   d) Protagonist

Q. 3. Choose the antonym of deep:- **(1)**
   a) Ugly   b) shallow   c) Beneath   d) Ancient

Q. 4. The following is (are) non-verbal communication:- **(1)**
   a) Facial expression   b) Appearance   c) Posture   d) All of the above

Q. 5. Means of grapevine communication are:- **(1)**
   a) formal   b) informal   c) critical   d) corporate

Q. 6. The whole concept of achieving success begins with how you ____:- **(1)**
   a) Behave   b) Think   c) Work   d) All of the above

Q. 7. The following is (are) the most effective ways of communication:- **(1)**
   a) Verbal   b) Non verbal   c) Written   d) All of the above

Q. 8. Rearrange the steps in the process of interpersonal communication:- **(1)**
   (A) Decoding (B) Message (C) Receiver (D) Sender (E) Encoding (F) Feedback (G) Channel

   a) D-E-G-B-C-A-F   b) A-F-G-D-E-B-C   c) D-G-E-B-C-A-F   d) C-B-E-D-G-F-A

Q. 9. Which of these is an electronic mode of communication:- **(1)**
   a) Letter   b) Manuals   c) Fax   d) Circulars

Q. 10. Word with the same meaning:- **(1)**
   a) Antonyms   b) Idioms   c) Noun   d) Synonyms

Q. 11. Meaning of A to Z:- **(1)**
   a) thoroughly   b) all powerful   c) straight   d) cause of quarrel

Q. 12. Many mistakes were _____ by the students:- **(1)**
   a) making   b) made   c) build   d) built

Q. 13. We met _____ European there:-
    a) a   b) the   c) an   d) to   **(1)**

Q. 14. He is _____ oldest member of the club:-
    a) a   b) an   c) the   d) their   **(1)**

Q. 15. One who loves one's country:-
    a) Patriot   b) alien   c) slave   d) theist   **(1)**

Q. 16. One who sees at the bright side:-
    a) Atheist   b) Transparent   c) Optimist   d) Orphan   **(1)**

Q. 17. "Jitterbug Perfume" was _____ by Tom Robbins:-
    a) Write   b) Wrote   c) Writing   d) Written   **(1)**

Q. 18. I don't tell a lie:-
    a) Affirmative   b) Negative   c) Interrogative   d) Assertive   **(1)**

Q. 19. The word 'communication' has its root in the:-
    a) Latin   b) German   c) Sanskrit   d) Manipuri   **(1)**

Q. 20. May! You live long:-
    a) Exclamatory   b) Affirmative   c) Negative   d) Imperative   **(1)**

Q. 21. Opposite of Clever:-
    a) Innocent   b) Cunning   c) Smart   d) Dump   **(1)**

Q. 22. Kinesics is the language of:-
    a) Voice   b) Body   c) Time   d) Space   **(1)**

Q. 23. A red letter day:-
    a) In danger   b) Carefully   c) An important day   d) An easy thing   **(1)**

Q. 24. Will you wait here:-
    a) Affirmative   b) Negative   c) Interrogative   d) Exclamatory   **(1)**

Q. 25. Place where a person lives permanently:-
    a) Drawn   b) Dispensary   c) Domicile   d) Decade   **(1)**

PART-B (DESCRIPTIVE TYPE)

Q.1. Write an essay in about 150 words on any one topic: **a)** Discipline in Student life **Or b)** Globalization.   **(10)**

Q.2. Recently you have visited a trade fair and liked the Electronic goods displayed there. Share your good and bad experiences with us.   **(5)**

Q.3. a) What is Communication? Describe the functions of communication.   **(5)**
    b) Define process of communication.   **(5)**

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