



**Narasaraopeta Engineering College (Autonomous)**  
Kotappakonda Road, Yellamanda (P.O), Narasaraopet- 522601, Guntur District, AP.

Subject Code: R16CC1101

**IB. Tech I Semester Regular And Supplementary Examinations, Dec-2017.**

**FUNCTIONAL ENGLISH**

**(Common to CE,EEE,ME,ECE&CSE)**

**Time:3 Hours**

**Max Marks:60**

Question Paper Consists of **Part -A** and **Part- B**

Answering the question in **Part-A** is Compulsory

Four Questions should be answered from **Part-B**, All Questions Carry Equal Marks of 12.

**PART-A**

1. (a) What does Kalam speak about education System?  
(b) What are the main causes for soil erosion?  
(c) How does astrologer's appearance help him in his profession?  
(d) What is Carrie excited about?  
(e) What are the thoughts of narrator when her son shouts at her in Woodrose story?  
(f) What is scanning? [2+2+2+2+2+2]

**PART-B**

2. (a) What made astrologer to practice that profession and how did he escape from the danger?  
(b) Write an imaginary conversation of (i) introducing yourself (ii) introducing your friend.  
(c) Write examples of three sentences for each structure of the following.  
(i) Subject+ verb+ direct object.  
(ii) subject+ verb+ indirect object  
(iii) subject + verb+ subject complement [7+2+3]
- 3.(a) What does Kalam mean while addressing students that it would be possible to develop state if they worked in the 'mission mode'?  
(b) Fill in the blanks with suitable words.  
(i) Nothing can.....(altar/alter) the fact that she is my friend.  
(ii) The society.....(has/have) decided not to include him.  
(iii) Neither the boys nor the girls.....(was/were) here.  
(iv) He was busy.....(pouring/poring) over the costs.  
(c) Expand the proverb "Empty mind is devil's workshop". [7+2+3]
- 4.(a) In one sense, water is the commonest of liquids. In another sense, it is the most uncommon of liquids with amazing properties – Explain.  
(b) Correct errors, if any, in the following sentences and rewrite them  
(i) He didn't went to office on Sunday.  
(ii) She is loving an unknown neighbor.  
(iii) He prefers coffee than tea.  
(iv) The furniture in his house are new
- (c) Write the one word substitute for the following words.  
(i) one who sells sweets  
(ii) which cannot be believable  
(iii) one who is never wrong  
(iv) one who believes that good things can be achieved [8+2+2]
5. (a) "The affection between two people shouldn't grow as thin as that dense creeper. If it grows, the youngsters may cut it off and throw it away." Justify the statement.  
(b) Write a technical report on the need of establishing a digital library in your college. [7+5]

6. (a) What type of emotions and feelings are associated with war? Explain with reference to *Progress*.
- (b) You are Uday , a graduate in Electronics and Communication Engineering's from IIT Kharagpur. You have five years of experience as an Junior Software engineer with TCS Company. Write an e-mail application letter in response to an advertisement for the post of senior Software engineer in WIPRO Company. [7+5]
- 7 (a). Read the following paragraph given below and make notes.

#### **Different Types of Pollution**

**Pollution** means the presence of unwanted substance in the air, water, and land, which has adverse effects on living organs and on environment.

**Effects:** The atmosphere is being polluted by discharge of emissions from industrial plants, domestic sources, running vehicles, which burns fossil fuel and from thermal power etc. Public health and hygiene are seriously effected in the cities of developed and developing countries by presence of Sulphur dioxide, Carbon dioxide, Nitrogen oxide, Carbon monoxide, Hydro carbon substance, etc.

The various types of environmental pollution includes air pollution, water pollution, soil pollution, radioactive pollution, noise pollution, etc. They are each discussed below:

**1. Air pollution:** Air pollution means presence of pollutants in the atmosphere is such concentration that causes injury to human being and plants.

**Causes:** Air mainly polluted by Carbon dioxide, Nitrogen oxide, Sulphur dioxide, etc.

**Solution:** Air pollution can be checked by increasing forest and protecting forests. Industry should be placed long distance from residential areas.

**2. Water pollution;** Water pollution means contamination of water with physical, chemical or biological properties of water due to discharge of industrial effluent or any other liquid.

**Sources:** Domestic waste water and dirty municipal waste or sewage are the chief source of water pollution. Also read, major sources of water pollution.

**Effects:** Water are polluted in different sources such as by gases, dirty soil, minerals, humans' materials, dead body of animals and other living organisms.

**Solution:** Water pollution can largely be controlled by proper treatment of domestic and municipal effluents. Domestic water and sewage can rightly be mixed with soil which will increase fertility.

**3. Soil pollution:** Soil pollution mainly occurs through agricultural chemicals.

**Reasons:** Land-ship, volcanic eruption, very strong wind current, torrential downpour, etc. are the natural phenomena which may partly contribute to creating soil pollution. The chief reason of soil pollution lies in the multifarious activities of man.

**Control:** Use of pro-environment fertilizers and insecticides in agriculture are to be restored to. Proper precautionary measures are to be adopted while using the radio-active ingredients or implements. Propagation of consciousness regarding soil pollution and other such means may materially help to control land or soil pollution.

- (b). Read the following points and write a short essay.
- (i) Importance of computer.
  - (ii) Origin and development of computer
  - (iii) Advantages of computerization
  - (iv) Disadvantages of computerizations
  - (v) Conclusion

[7+5]



**Subject Code: R16CC1102**

**I B.Tech I Semester Regular And Supplementary Examinations, Dec-2017.**

**ENGINEERING MATHEMATICS**

**(Common to CE, EEE, ME, ECE & CSE)**

**Time: 3 hours**

**Max Marks: 60**

Question Paper Consists of **Part-A** and **Part-B**.

Answering the question in **Part-A** is Compulsory & Four Questions should be answered from Part-B

All questions carry equal marks of 12.

**PART-A**

1. (a) Solve the equation  $\frac{2x}{y^3}dx + \frac{y^2 - 3x^2}{y^4}dy = 0$
- (b) Find the particular integral of  $(D^2 - 2D + 4)y = e^x \cos x$
- (c) Verify Lagrange's mean value theorem for the function  $f(x) = 5x^2 + 7x + 6$  in  $(3, 4)$
- (d) If  $u = \frac{x}{y+z} + \frac{y}{z+x} + \frac{z}{x+y}$ , find the value of  $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} + z \frac{\partial u}{\partial z}$
- (e) Write the order and degree of the partial differential equation  $\left(\frac{\partial z}{\partial x}\right)^3 + \frac{\partial^2 z}{\partial y^2} = \cos(x+y)$
- (f) Solve  $\frac{\partial^2 z}{\partial x^2} + 5 \frac{\partial^2 z}{\partial x \partial y} + 6 \frac{\partial^2 z}{\partial y^2} = 0$

[2+2+2+2+2+2]

**PART-B**

**4X 12 = 48**

2. (a) Solve the differential equation  $\frac{dy}{dx} = \frac{y}{x + \sqrt{xy}}$
- (b) Find the orthogonal trajectory of family of curves  $r^n = a \sin n\theta$ .
3. (a) Find the complete solution of  $(D^2 - 2)^2 y = 16(e^{2x} + \sin 2x + x^2)$
- (b) Solve  $x^2 \frac{d^2 y}{dx^2} + 5x \frac{dy}{dx} + 4y = x \log x$
4. (a) Using Cauchy's mean value theorem, evaluate  $\lim_{x \rightarrow 1} \left[ \frac{\cos(\pi x/2)}{\log(1/x)} \right]$
- (b) A rectangular metal sheet of length 6 metres width 2 metre is given. Four equal squares are removed from the corners. The sides of this sheet are now turned up to form an open rectangular box. Find approximately, the height of the box in centimetres, such that the volume of the box is maximum.

5. (a) If  $u = e^{ax+by} f(ax-by)$ , prove that  $b \frac{\partial u}{\partial x} + a \frac{\partial u}{\partial y} = 2abu$  by using the concept of composite function.
- (b) Discuss the maxima and minima of  $f(x, y) = x^3 y^2 (1 - x - y)$
6. (a) Find the partial differential equation of all spheres whose centres lie on the  $z$ -axis.
- (b) Solve  $x(y-z)p + y(z-x)q = z(x-y)$
7. The ends  $A$  and  $B$  of a rod 20 cm long have the temperature at  $30^\circ\text{C}$  and  $80^\circ\text{C}$  until steady-state prevails. The temperature of the ends are changed to  $40^\circ\text{C}$  and  $60^\circ\text{C}$  respectively. Find the temperature distribution in the rod at time  $t$ .

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# Narasaraopeta Engineering College (Autonomous)

Kotappakonda Road, Yellamanda (P.O), Narasaraopet- 522601, Guntur District, AP.

Subject Code: R16CC1103

I B.Tech I Semester Regular And Supplementary Examinations, Dec-2017.

**MATHEMATICAL METHODS**  
(Common to CE, EEE, ME & ECE)

Time: 3 hours

Max Marks: 60

Question Paper Consists of Part-A and Part-B.

Answering the question in Part-A is Compulsory & Four Questions should be answered from Part-B  
All questions carry equal marks of 12.

## PART-A

1. (a) Determine the rank of a matrix  $A = \begin{bmatrix} 3 & -1 & 2 \\ -6 & 2 & 4 \\ -3 & 1 & 2 \end{bmatrix}$

(b) If  $\lambda$  be an eigen value of a non-singular matrix A, Show that  $\frac{|A|}{\lambda}$  is an Eigen value of a matrix adj A.

(c) Evaluate  $\int_0^1 \int_0^y x dy dx$  .

(d) Write merits and demerits of Regula falsi method

(e) Show that  $\mu = \frac{1}{2} \left( E^{\frac{1}{2}} + E^{-\frac{1}{2}} \right)$  .

(f) Write the formulae for 4<sup>th</sup> order Runge-Kutta

[2+2+2+2+2+2]

## PART-B

4X 12 = 48

2. (a) Investigate the values of  $\lambda$  and  $\mu$  so that the equations

$$2x+3y+5z=9, \quad 7x+3y-2z=8, \quad 2x+3y+\lambda z=\mu$$

have (i) no solution, (ii) a unique solution and (iii) an infinite number of solutions.

(b) Apply LU decomposition method to solve the equations:

$$3x+2y+7z=4, \quad 2x+3y+z=5, \quad 2x+4y+z=7.$$

3. (a) Verify Cayley-Hamilton theorem for the Matrix  $A = \begin{bmatrix} 1 & 4 \\ 2 & 3 \end{bmatrix}$  and find its inverse. Also

express  $A^5 - 4A^4 - 7A^3 + 11A^2 - A - 10I$  as a linear polynomial in A.

(b) Find the nature of the quadratic form  $x^2 + 5y^2 + z^2 + 2xy + 2yz + 6zx$

4. (a) Find the area of the loop of the curve  $ay^2 = x^2(a-x)$ .

(b) Evaluate  $\int_0^\infty \int_0^\infty e^{-(x^2+y^2)} dx dy$  by changing to polar coordinates.

5. (a) Find a root of the equation  $x^3 - 4x - 9 = 0$ , using the bisection method in four stages.

(b) Using Newton's iterative method, find the real root of  $x \log_{10} x = 1.2$  correct to five decimal places.

- 6 The table gives the distances in nautical miles of the visible horizon for the given heights in feet above the earth's surface:

$x = \text{height}$	:	100	150	200	250	300	350	400
$y = \text{distance}$ :		10.63	13.03	15.04	16.81	18.42	19.90	21.27

Find the values of  $y$  when  $x=218 \text{ ft}$  and  $410 \text{ ft}$ .

7. (a) Find by Taylor's series method the value of  $y$  at  $x=0.1$  and  $x=0.2$  to five places of decimals from  $\frac{dy}{dx} = x^2 y - 1, y(0) = 1$ .
- (b) Apply Runge-Kutta method to find approximate value of  $y$  for  $x=0.2$  in steps of 0.1, if  $\frac{dy}{dx} = x + y^2$ , given that  $y=1$ , where  $x=0$ .

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**Subject Code: R16CC1104**

**I B.Tech I Semester Regular And Supplementary Examinations, Dec-2017.**

**PROGRAMMING WITH C**  
**(Common to CE, EEE & ME)**

**Time: 3 hours**

**Max Marks: 60**

Question Paper Consists of **Part-A** and **Part-B**.

Answering the question in **Part-A** is Compulsory & Four Questions should be answered from Part-B

All questions carry equal marks of 12.

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**PART-A**

- 1) (a) What is pre increment? How is it different from post increment?  
(b) Difference between break and continue.  
(c) What are predefined and user defined functions?  
(d) What are realloc ( ) and free ( ) functions?  
(e) Explain about typedef data type.  
(f) Write a program to open a file in read mode and close it .

[2+2+2+2+2+2]

**PART-B**

- 2) (a) Write about Computer languages.  
(b) Write about Operators with example programs. [6+6]
- 3) (a) Differentiate between while and do-while? Explain with an example.  
(b) Write about String functions with example programs. [6+6]
- 4) (a) Explain about call by value and call by reference mechanisms with example programs..  
(b) Explain about standard library functions. [6+6]
- 5) (a) Write about pointers to pointers concept with example program.  
(b) Write about dynamic memory allocation functions with example program. [6+6]
- 6) (a) How to define nested structures and arrays of structures with examples.  
(b) Write a program to display student details using pointers to structure. [6+6]
- 7) (a) Write about text files , binary files and random files.  
(b) Write about file operations with example program. [6+6]

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**Narasaraopeta Engineering College (Autonomous)**  
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Subject Code: R16CC1105

I B.Tech I Semester Regular And Supplementary Examinations, Dec-2017.

**ENGINEERING CHEMISTRY**

(Common to CE, EEE & ME)

Time: 3 hours

Max Marks: 60

Question Paper Consists of Part-A and Part-B.

Answering the question in Part-A is Compulsory & Four Questions should be answered from Part-B

All questions carry equal marks of 12.

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**PART-A**

1. (a) Define priming and foaming.  
(b) How is PVC prepared? Give two uses.  
(c) What are lyotropic crystals?  
(d) Why does dry cell become dead after a long time, even if it is not been used?  
(e) Explain how catalytic cracking is better than thermal cracking.  
(f) What is Lambert's Beer Law?

[2+2+2+2+2+2]

**PART-B**

4X 12 = 48

2. (a) Discuss about deionization process for purification of water?  
(b) Water sample on analysis gave the following results:  $\text{Mg}(\text{HCO}_3)_2 = 130 \text{ mg/L}$ ;  $\text{CaCl}_2 = 244 \text{ mg/L}$ ;  $\text{MgSO}_4 = 150 \text{ mg/L}$ ;  $\text{Ca}(\text{NO}_3)_2 = 200 \text{ mg/L}$ . Calculate the quantity of lime (80% pure) and soda (90% pure) needed for softening 5,000 litres of water. [7+5]
3. (a) Discuss compounding of plastics.  
(b) Write notes on biodegradable plastics. [7+5]
4. (a) Write notes on (i) properties of fullerenes (ii) five principles of green chemistry  
(iii) function of the ingredients of cement (iv) solar heaters [3+3+3+3]
5. (a) Write notes on  $\text{H}_2\text{-O}_2$  fuel cells. Mention its applications  
(b) Discuss galvanizing and electroplating of metals. [7+5]
6. (a) Describe the working of bomb calorimeter with a neat sketch.  
(b) Explain how nitrogen and sulphur are estimated in a given sample of coal. [6+6]
7. (a) Discuss photo-excitation of organic molecules with examples  
(b) Explain Jablonski diagram. [4+8]

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# Narasaraopeta Engineering College (Autonomous)

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Subject Code: R16CC1106

I B.Tech I Semester Regular And Supplementary Examinations, Dec-2017.

PROFESSIONAL ETHICS, VALUES & PATENTS

(Common to CE, EEE & ME)

Time: 3 hours

Max Marks: 60

Question Paper Consists of Part-A and Part-B.

Answering the question in Part-A is Compulsory & Four Questions should be answered from Part-B

All questions carry equal marks of 12.

## PART-A

1. (a) What is empathy?  
(b) What is Engineers & Ethics?  
(c) What is Whistle blower?  
(d) What is Cyber law?  
(e) What is Copy rights?  
(f) What is Trade secret?

[2+2+2+2+2+2]

## PART-B

4X 12 = 48

2. (a) Discuss the relationship between spirituality and character  
(b) Present your view point about the need for work ethics
3. (a) Discuss the different roles played by engineers in an organization  
(b) Can a consulting engineer follow ethics?
4. What is the significance of "Cross-cultural issues" in the modern day engineering?
5. (a) TRIPS  
(b) Legal tasks in intellectual property law
6. Discuss in detail regarding Patents & Patent Registration Process with two examples
7. (a) Trade mark registration process  
(b) Cyber Crimes  
(c) Physical Security in work place

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**Subject Code: R16CC1107**

**I B.Tech I Semester Regular And Supplementary Examinations, Dec-2017.**  
**ENGINEERING GRAPHICS**

**(Common to ECE & CSE)**

**Time: 3 hours**

**Max Marks: 60**

**Question Paper Consists of Part-A and Part-B.**

Answering the question in **Part-A** is Compulsory & Four Questions should be answered from Part-B  
All questions carry equal marks of 12.

**PART-A**

1. (a) What is representative fraction (R.F.)?  
(b) A point P is in HP and 30mm behind VP. Draw its projections  
(c) What is a trace of a line? When a straight line will not have traces?  
(d) A hexagonal plate of side 2 cm is lying in the V.P. with two sides vertical. Draw its projections  
(e) A cube of side 5 cm is standing vertically with all of its vertical faces equally inclined to V.P. Draw its projections  
(f) Define isometric axes.

**[2+2+2+2+2+2]**

**PART-B**

**4X 12 = 48**

2. An area of 50 sq.km of a field is represented by an area of 150 sq.cm on a map. Determine the R.F. of the scale used in the map. Also construct a diagonal scale to show kilometres, hectometres and decametres. The maximum length on the scale is 10 km. Show a distance of 6.48 km on the scale. (12)
3. (a) The distance between the projectors of two points A and B is 60 mm. The point A is 10 mm above the H.P and 20 mm in front of the V.P. while the point B is 40 mm below the H.P and 50 mm behind the V.P. Draw their projections and join their top views and front views. (6)  
(b) The top view of a line PQ which is inclined at  $60^\circ$  to the HP measures 50mm. The line is in the VP and its one end is 40 mm above HP. Draw its projections and find its true length. (6)
4. A line AB of 100 mm long makes an angle of  $30^\circ$  with the H.P. and  $45^\circ$  with the V.P. Its one end is 30mm above the H.P. and 25mm in front of the V.P. Draw the projections of the line. Also locate its traces. (12)

5. One edge of a hexagonal plate of side 25 mm is on H.P and inclined at  $60^{\circ}$  to the V.P. while its surface is making an angle of  $45^{\circ}$  to the H.P. Draw its projections. (12)

6. A pentagonal pyramid of base side 2cm and axis 5cm is lying on the V.P. with one of its triangular faces and the axis is parallel to H.P. Draw its projections (12)

7. A cone of base diameter 50 mm, and height 80 mm, is resting on HP with its base. Draw its isometric view. (12)

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# Narasaraopeta Engineering College (Autonomous)

Kotappakonda Road, Yellamanda (P.O), Narasaraopet- 522601, Guntur District, AP.

Subject Code: R16CC1107

I B.Tech I Semester Regular And Supplementary Examinations, Dec-2017.

ENGINEERING GRAPHICS

(Common to ECE & CSE)

Time: 3 hours

Max Marks: 60

Question Paper Consists of Part-A and Part-B.

Answering the question in Part-A is Compulsory & Four Questions should be answered from Part-B

All questions carry equal marks of 12.

## PART-A

1. (a) In a drawing, 2mm represents 8m. What is its RF?
- (b) State the assumptions made in orthographic projection.
- (c) A Line PQ 40mm long is on the H.P and 15 mm in front of V.P. Draw its projections
- (d) A square plate of side 5cm is parallel to H.P. with all of its sides equally inclined to V.P. Draw its projections
- (e) A hexagonal pyramid of base side 2cm and axis 5cm is resting on the ground with its base, with two sides perpendicular to V.P. Draw its projections
- (f) Define isometric axes.

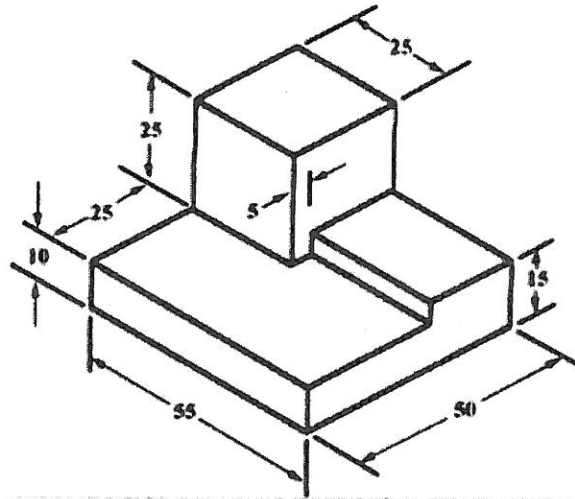
[2+2+2+2+2+2]

## PART-B

4 X 12 = 48

2. The major and minor axes of an ellipse are 150mm and 100mm long respectively. Draw the half of the ellipse by Arcs of circles method and another half by rectangle method. Draw the normal and tangent to the ellipse at a point 25mm above the major axis. (12)
3. (a) A point P is 30 mm in front of VP and 40 mm above HP. Draw its projections and also find its shortest distance from the intersection of both the reference planes. (6)
- (b) The front view of a 75mm long line which is parallel to and 40 mm above HP is 50mm while its one end being in the VP. Draw its projections. (6)
4. A line AB of 80 mm long is inclined at an angle of  $30^\circ$  to the V.P and  $45^\circ$  to the H.P. Its one end A is 20 mm above H.P. and 50 mm in front of V.P. Draw its projections. Also mark its traces. (12)
5. A regular hexagon of 30mm side has a corner in the HP. Its surface is inclined at  $45^\circ$  to the HP and the top view of the diagonal through the corner which is in the HP is making an angle of  $60^\circ$  with the VP. Draw its projections (12)

6. A cone of base diameter 50mm and axis 70mm is lying in the V.P. with one of its generators with the axis parallel to H.P. Draw its projections. (12)
7. The pictorial view of an object is shown in the following fig. Draw its three views. All the dimensions are in mm. (12)



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# Narasaraopeta Engineering College (Autonomous)

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Subject Code: R16CC1108

**I B.Tech I Semester Regular And Supplementary Examinations, Dec-2017.**

**ENGINEERING PHYSICS  
(Common to ECE & CSE)**

**Time: 3 hours**

**Max Marks: 60**

Question Paper Consists of **Part-A** and **Part-B**.

Answering the question in **Part-A** is Compulsory & Four Questions should be answered from Part-B

All questions carry equal marks of 12.

## **PART-A**

1. (a) Write the differences between Interference and diffraction.  
(b) Define the terms acceptance angle and acceptance cone.  
(c) What are Miller Indices?  
(d) What are the factors effecting the acoustic quality of a building?  
(e) What are matter waves? Are matter waves associated with earth?  
(f) What is effective mass of an electron?

[2+2+2+2+2+2]

## **PART-B**

2. (a) Derive the expressions for the diameters of dark and bright rings.  
(b) What is plane diffraction grating?  
(c) Find the thickness of quarter-wave plate when the wavelength of light is equal to  $5893\text{\AA}$ ,  $\mu_o=1.65833$  and  $\mu_e=1.48640$ . [7+2+3]
3. (a) What is the principle involved in LASER? With a neat sketch, describe the construction and working of Ruby LASER.  
(b) What is Numerical Aperture of an optical fiber? Derive an expression for it. [6+6]
4. (a) Define packing factor of a unit cell. Show that the packing factor for simple cubic, and body centered lattices are 52%, 68%.  
(b) State Bragg's law. What is the limiting condition for Bragg's law? [8+4]
5. (a) What are ultrasonic waves? Explain the production of ultrasonics using magnetostriction method.  
(b) What is reverberation time? Derive Sabine's formula for the determination of reverberation time? [8+4]
6. (a) Write the significance of Fermi-Dirac distribution function.  
(b) Show that the energies of a particle in a potential box are quantized [6+6]
7. (a) State Hall Effect. Derive the expression for Hall Coefficient.  
(b) Explain how materials are classified as conductors, semiconductors and insulators. [6+6]

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**Subject Code: R16CC1109**

**I B.Tech I Semester Regular And Supplementary Examinations, Dec-2017.**

**ENVIRONMENTAL STUDIES**

**(Common to ECE & CSE)**

**Time: 3 hours**

**Max Marks: 60**

Question Paper Consists of **Part-A** and **Part-B**.

Answering the question in **Part-A** is Compulsory & Four Questions should be answered from Part-B

All questions carry equal marks of 12.

**PART-A**

- 1.(a)Define Environment, what are the components of Environment?
- (b)What is deforestation?
- (c)Write about species diversity?
- (d)What do you know about ocean water pollution?
- (e)Mention the causes of smog and acid rain?
- (f)What is EIS?

**[2+2+2+2+2+2]**

**PART-B**

**4X 12 = 48**

2. (a)Define ecosystem. Explain the structure and function of an ecosystem? 6m  
(b)Discuss about desert ecosystem? 6m
3. (a)What are mineral resources? How can mineral resources be conserved ? 6m  
(b)What are the major causes for displacement of native tribal people? 6m
4. (a)What kinds of threats to the biodiversity may lead to its loss? 6m  
(b)Discuss why India is a Mega-diversity nation? 6m
5. (a)Write the sources and effects of water pollution on human health? 6m  
(b)Define noise. Write in detail noise pollution control measures? 6m
- 6 .(a )Explain the main provisions of forest conservation Act,1980? 6m  
(b)Explain about consumerism and waste products 6m
7. Write short notes on  
(a)Environment audit (b)Checklist method (C)Public hearing 12m

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**Subject Code: R16CS1110**

**I B.Tech I Semester Regular And Supplementary Examinations, Dec-2017.**

**INTRODUCTION TO COMPUTERS AND PROBLEM SOLVING**

**(CSE)**

**Time: 3 hours**

**Max Marks: 60**

Question Paper Consists of **Part-A** and **Part-B**.

Answering the question in **Part-A** is Compulsory & Four Questions should be answered from Part-B  
All questions carry equal marks of 12.

**PART-A**

1.

- (a) Who is the father of computer? Why?
- (b) List different types of ROM?
- (c) What is gray code?
- (d) Mention the standard conventions of drawing a flowchart.
- (e) Write the Fibonacci sequence between 1 to 20
- (f) What is an array?

**[2+2+2+2+2+2]**

**PART-B**

**4X 12 = 48**

- 2. (a) Draw the block diagram of a digital computer and explain the functions of each block in detail.  
(b) Describe in brief several types of computers.
- 3. (a) Explain the following  
i) DVD- ROM                      ii) Registers                      iii) parallel processing  
(b) What is Rom? Describe it's various types
- 4. (a) Find the decimal equivalent of the following binary numbers :  
i) 1101011                      ii) 11010                      iii) 10110011                      iv) 11011101  
(b) Perform subtraction using 2's complement method  
(11010)<sub>2</sub> – (10000)<sub>2</sub>                      (1000100)<sub>2</sub> – (1010100)<sub>2</sub>
- 5. (a) What are the various steps involved in problem solving  
(b) Discuss about the various steps involved in the analysis of algorithm
- 6. Write an algorithm and draw a flowchart for the following problems  
(a) addition of first ten numbers starts from 1.  
(b) To obtain the first 10 numbers in Fibonacci series.
- 7. (a) Write an algorithm for printing of prime numbers between 1 to 50  
(b) Write an algorithm for searching an element in the array.

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