Sl.No. 1821 SUBJECT CODE: 34115103/34116103

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E.DEGREE EXAMINATIONS- NOV/DEC - 2018
COMMON TO ALL BRANCHES
FIRST SEMESTER
PHYSICS FOR ENGINEERS

(Candidates admitted under 2015 &2016 Regulations-CBCS)

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Give the examples for elastic bodies.
2	Define: bulk modulus of elasticity
3	Give the no. of atoms per unit cell and coordination number for FCC
4	What are Miller indices?
5	Define: Spontaneous emission
6	Write any two applications of CO_2 laser.
7	What is meant by critical angle?
8	What is multimode fiber?
9	What is destructive testing?
10	Give the demerits of Liquid Penetrant method.

PART-B (5 x 16 = 80)

11 a.	Describe an experiment to determine Young's modulus of a beam by uniform bending.
	OR	
b.	Explain about I-shaped girders with neat diagram.	
12 a.	Determine the number of atoms per unit cell, coordination number, atomic radius and packing factor for BCC structure.
	OR	
b.	What are Miller indices? Write down the procedure finding the Miller indices with examples.	
13 a.	Explain the applications of lasers in scientific, engineering and industrial fields.
	OR	
b.	Describe the applications of laser in communication, military and chemical fields.	
14 a.	Describe the characteristics, advantages, disadvantages and applications step-index multimode fibre with necessary diagrams.
	OR	
b.	Write a note on the following i)critical angle, ii) total internal reflection, iii) acceptance angle, iv) numerical aperture.	
15 a.	Write down the principle, advantages, disadvantages and applications of ultrasonic flaw detector
	OR	
b.	Describe the X-ray fluoroscopy technique of nondestructive testing.	

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Sl.No.E 1993 Sub.Code: 34116102/34115102

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E DEGREE EXAMINATIONS – NOV/DEC -2018
COMMON TO ALL BRANCHES
First Semester
ENGLISH FOR ENGINEERS

(Candidates admitted under 2015 & 2016 Regulations-CBCS)

Time: Three hours Maximum:100Marks

Answer **ALL** questions

PART – A (10 x 2 = 20 marks)

1. **Identify the parts of speech for the underlined words.**
   - **i)** We must help ourselves
   - **ii)** Oh! we are late for the movie

2. **Correct the following sentences by identifying the errors.**
   - **i)** Do the roses in your garden smell more sweetly than the roses in ours?
   - **ii)** If you lend him a book, he will lend it to some one else and never you will get it back.
3. **Define the following definitions.**
   i) Acid ii) Calculator.

4. **Fill in the blanks with suitable articles.**
   i) I live in -------- apartment
   ii) I saw ---- movie last night.

5. **Identify the silent letters for the given words.**
   i) Psychology ii) Doubt

6. **Choose the correct homonyms for the following.**
   - **i)** The burning candle created a pleasant ____ in the room. Sent, cent, scent.
   - **ii)** Would you like a piece of fruit? Perhaps a ____? Pear, pair, pare

7. **Choose the correct homophones for the following.**
   - **i)** She held the ____ in her hand. Reigns, rains, reins
   - **ii)** He was a medieval ____. Night, knight

8. **Fill in the blanks with appropriate tense form of the verbs.**
   SIMPLE PRESENT TENSE
   - **i)** Every twelve months, the Earth _____(circle) the Sun.
   - **ii)** This delicious chocolate____ (be) made by a small chocolaty in Zurich, Switzerland.

9. Change the following sentences into impersonal passive voice.

i) The N. S. S. students will clean our campus.

ii) We can alter the characteristics of steel in various ways.

10. **Complete the following sentence:**

i) If there had been no rains last month, _____.

ii) If he studied hard,_____

PART – B (5 x 16 = 80 marks)

11. a) What are the characteristics of a good listener?

OR

b) State the importance of pronunciation with its guidelines

12. a) What are the points to remember while making a call and receiving a call?

OR

b) As a manager in a company you are asked to write a report of three of your sub ordinates for promotion. Prepare a report along with your recommendations.

13. a) Describe a memorable incident in your life.

OR

b) Write a note on skimming

14. a) What are the differences between Spoken and Written English?

OR

b) Write the symbols of Vowels. Explain with examples.

15. a) **Read the passage and draw a flow chart.**

The earth contains a large number of metals which are useful to man. One of the most important of these is iron. The iron wore which we find in the earth is not pure. It contains some impurities which we must find in the earth is not pure. It contains some impurities which we must remove by smelting. The process of smelting consists of heating the ore in a blast furnace with coke limestone and reducing it to metal. Blasts of hot air enter the furnace from the bottom and provide the oxygen which is necessary for the reduction of the ore. The ore becomes molten, and its oxides combine with the limestone to form a liquid slag. This floats on top of the molten iron, and passes out of the furnace through a tap. The metal which remains is pig iron.

We can melt this down again in another furnace-a cupola-with more coke and limestone, and tap it out into a ladle or directly into moulds

OR

b) Write a letter to your friend Ramesh, expressing your sense of relief at his recovery from a serious and long illness

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Sl.No. 1596 **Sub. Code:34215101/34216101**

VINAYAKA MISSIONS UNIVERSITY, SALEM

B.E. DEGREE EXAMINATION - NOV /DEC – 2018

COMMON TO BME, CSE, EEE, ECE, IT AND MECT

First Semester

ESSENTIAL OF CIVIL AND MECHANICAL ENGINEERING

(Candidates admitted under 2015&2016 Regulations - CBCS)

Time: Three hours Maximum: 100 marks

Answer **ALL** questions

Use separate Answer books for Part I and Part II

PART – I: CIVIL ENGINEERING (50 marks)

PART – A (10 x 2 = 20 Marks)

1. What is meant by offset?
2. How brick earth is classified?
3. What are the uses of cement?
4. State the types of concrete
5. List out different types of shallow foundations.
6. What is meant by Shallow foundation?
7. Differentiate between stretcher bond and header bond.
8. List out the mortars used in masonry work.
9. Write short notes on gravity dam.
10. Define a lintel and mention the materials which are commonly used to construct it.

PART – B (3 x 10 =30 Marks)

1 . a) Draw 10 conventional symbols.

OR

b) What is chaining and explain the types of chain.

2. a) Explain different types of cement.

OR

b) Explain with neat sketches the different types of shallow foundations.

3. a) Briefly explain the types of Floors

OR

b) Write short notes on types of dames.

(P.T.O)

PART – II: MECHANICAL ENGINEERING (50 marks)

PART – A (10 x 2 = 20 Marks)

1. List out the different kinds of fossil fuels.
2. State the advantages and disadvantages of solar energy.
3. What is meant by super heater?
4. Differentiate the Nuclear fission and fusion.
5. What is meant by moderator?
6. List out the applications of four stroke and two stroke engines.
7. What is known as refrigerant?
8. Give some forging operations.
9. Why is a neutral flame extensively used in oxy-acetylene welding?
10. State the advantages and disadvantages of gas welding.

PART – B (3 x 10 =30 Marks)

11. a) Draw the layout and explain the working principle of steam power plant.

OR

b) Compare the steam power plant with hydro power plant.

12. a) Explain the vapour compression refrigeration system with neat sketch.

OR

b) Discuss the working principle of a window room air conditioning system with neat sketch

13. a) Briefly explain the preparation of the Green sand moulding with neat sketch.

OR

b) Explain with neat sketch about the Arc welding.

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Sl.No. 1741 SUBJECT CODE: 35015101/35016101

VINAYAKA MISSIONS RESEARCH FOUNDATION

(Deemed to be University)

B.E-DEGREE EXAMINATIONS- NOV/DEC - 2018

COMMON TO ALL BRANCHES

FIRST SEMESTER

ESSENTIALS OF COMPUTER SCIENCE AND ENGINEERING

(Candidates admitted under 2015 & 2016 Regulations-CBCS)

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 What is mean by hardware?

2 Define Booting.

3 Write notes on Bullets and numbering in MS Word.

4 Mention the uses of MS Excel.

5 List out the way how algorithms may be represented.

6 Write an algorithm to find the area of a circle.

7 In what way to analyze an algorithm.

8 Give an example for top-down analysis.

9 List out any four formatting tags in HTML.

10 How you define href, target and name Attributes?

PART-B (5 x 16 = 80)

11 a. Explain the block diagram of a Computer with neat sketch.

OR

b. Describe the services provided by Internet.

12 a. Briefly explain table menu in MS Word.

OR

b. What is a chart and explain different steps for inserting a chart in Excel.

13 a. What is flowchart? Explain the symbols used in drawing the flowchart. Also write the rules and advantages of using flowcharts.

OR

b. Write an algorithm and flowchart for generating Fibonacci series.

14 a. Discuss the features of an algorithm.

OR

b. Explain the classification of Algorithms.

15 a. To create a web page to showing an ordered & unordered list of name of your five friends.

OR

b. Explain in detail about HTML image tags.

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VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E. DEGREE EXAMINATION- NOV /DEC – 2018
COMMONTO AERO, AUTO, CIVIL, ECE, EEE,
EIE, CSE, IT, BME, MECH& & MECT
Second Semester
BUSINESS ENGLISH
(Candidates admitted under 2015&2016 Regulations - CBCS)

Time: Three hours Maximum: 100 marks

Answer **ALL** questions

PART – A (10 x 2 = 20 Marks)

1. Correct the following sentences using subject and verb agreement.

a). He can able to operate the computer.

b) One of my books are missing.

2. Fill in the blank with suitable prepositions.

a) They ceased work _____ sunset.

b) He wrote the answer _____ ink.

3. **Combine the sentences showing cause and effect relations.**

. a) The machine was tested. It was installed.

b) He was sick. He went to consult a doctor.

4. **Write the meaning for the following phrasal verbs and make sentences of your own.**

a). Break up b). Agree with

5. **Make your own sentences using the following idiomatic phrases**

a) Catch one's eye b) Jack of all trades

6. **Write British English words for the following American English words.**

a) Fulfill b) Favor

7. **Write American English words for the following British English Words.**

a) Litre b) Mould

8. **Make your own sentences for the following compound words.**

a) Boat house b) . Animal behavior.

9. **Read the answers and frame the questions**.

a) My father is sixty years old. b) I come from Bangkok

10. **Find out the stress for the following words.**

a). Before b). Television

PART-B (5 x 16 = 80 Marks)

11.a) Write some interpersonal etiquette for negotiation skill.

OR

b) What are the important points to be followed by the e-mail users?

12.a) Write a note on Stress.

OR

Rewrite the following jumbled sentences in the correct order.

b) i. If that strikes oil, then production wells can be drilled.

ii. They carry out surveys from the ground and from the air using a variety of instruments. And they bore into the rocks to take samples.

iii. When Petroleum engineers search for oil, they look for certain types of rock layers, or strata, which they know from past experience, can trap oil.

iv. If it indicates that oil may be present, a test well is drilled.

v. Oil is found underground trapped in the layers of rock.

vi. When all the information is collected and analyzed, of the underground strata is obtained.

vii. They also set off explosions in the ground and record the waves reflected from the underground rock layers.

viii. This is called seismic surveying.

13.a) Recommendations that should be followed for safety in a factory.

OR

b) Write a set of eight recommendations following which you could avoid the attack of swine flu.

OR

14.a) Write instructions that should be followed in computer Laboratory.

OR

b) Write a letter to the Manager of Sharptronics, Chennai. Calling for quotation for the following items. Assume that you are the purchase officer.

Items	**Nos**
Blue Star AC	3
Usha fans	7
L G Television 32”	1
L G Refrigerator	1

15.a) Prepare a checklist to find a suitable accommodation for your family.

OR

b) Explain the following Proverbs ‘No pain, no gain’ and Cleanliness is next to Godliness.

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Sl.No. 1292 SUBJECT CODE: 34115202/34116202

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E.DEGREE EXAMINATIONS- NOV/DEC - 2018
COMMON TO ALL BRANCHES
SECOND SEMESTER
CHEMISTRY FOR ENGINEERS

(Candidates admitted under 2015 & 2016 Regulations-CBCS)

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Define oxidation and reduction.

2 State the reaction when a lead storage battery is recharged?

3 Name any two Coagulants.

4 What is cathodic protection?

5 Why are plastics indispensible in everyday life?

6 What is degree of polymerization?

7 Define component with example.

8 Calculate the degree of freedom for 2 $H_2(g) + O_2(g) \rightarrow 2$ H2O(v)

9 Give the frequency region of Infrared spectrum?

10 State Retention time.

PART-B (5 x 16 = 80)

11 a. Explain the determination of EMF by Poggendorff's method.

OR

b. Discuss the electrochemical series and its applications.

12 a. (i)How is internal treatment of boiler water carried out?
(ii) Describe the principle and method involved in the determination of different types and amount of alkalinity of water.

OR

b. (i) Differentiate between chemical corrosion and electrochemical corrosion.
(ii) Illustrate the reactions involved in differential aeration corrosion with reference to the iron material.

13 a. (a). What are ceramics and how they are classified? Write the uses of ceramics.
(b). Write a note on Special cements.

OR

b. Write the preparation, properties and uses of the following
(i) PVC (ii) Teflon (iii) Bakelite

(P.T.O)

14 a. With suitable examples explain the terms phase, component and degree of freedom.

OR

b. Write a detail note on harmful effects of radioactive isotopes.

15 a. Describe Gas chromatography with neat diagram.

OR

b. How will you estimate metals by flame photometer?

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Sl.No. 1452 SUBJECT CODE: 35015201/35016201

VINAYAKA MISSIONS RESEARCH FOUNDATION

(Deemed to be University)

B.E.DEGREE EXAMINATIONS- NOV/DEC - 2018

COMMON TO ALL BRANCHES

SECOND SEMESTER

C PROGRAMMING

(Candidates admitted under 2015 & 2016 Regulations-CBCS)

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 What are the memory requirements of primary data type?

2 Mention the various types of operator

3 Write the syntax of switch statement.

4 Write the Syntax of for statement?

5 Find the length of following strings using strlen( ) function,
char s1[ ]=”program”;
char s2[ ]=”importance”;

6 How to declare a union variable?

7 Define library function

8 What are the advantages of using a pointer?

9 Write the rules for preprocessor directives.

10 What is the use of fseek( ) function?

PART-B (5 x 16 = 80)

11 a. Explain the Arithmetic and relational operators in C with suitable program.

OR

b. Write a C program
i) To find sum of 5 numbers.
ii) To find simple interest.

12 a. Explain the types of looping statements?

OR

b. Write a C program:
a. i. To find the factorial of a given number using while statement
b. ii. To find the factorial of a given number using for statement

13 a. Write a C program to explain the concept of structure.

OR

b. Write a C program to explain the concept of structure within structure.

14 a. Discuss the pointer expressions used in the C program.

OR

b. Write a C program to implement function returning pointers.

15 a. Write a C program to altering the allocated memory.

OR

b. Write about the following function,
i. fputs( ) ii. fgets( ) iii. fread( ) iv. fwrite( )

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VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E. DEGREE EXAMINATION- NOV /DEC - 2018
COMMON TO CSE AND IT
Third Semester
NUMERICAL METHODS, PDE AND APPLICATIONS
(Candidates admitted under 2015&2016 Regulations - CBCS)

Time: Three hours Maximum: 100 marks

Answer **ALL** questions

PART – A (10 x 2 = 20 Marks)

1. Which has faster convergence either Gauss-Seidel or Gauss–Jacobi method?
2. Find an iterative formula to find $\sqrt{N}$, where N is a positive number.
3. If $f(3)=5$ and $f(5)=3$, what is the form of $f(x)$ by Lagrange's Formula?
4. When will you use Newton's backward interpolation formula?
5. Find the complete solution of the PDE $p+q=x+y$.
6. Find the Particular Integral of $\left(D^2+3DD'+2D'^2\right)z=\sin(x+5y)$.
7. Find the half-range sine series for $f(x)=x^2$ in $(0,\pi)$
8. In the Fourier series expansion of $f(x)=|\sin x|$ in $(-\pi,\pi)$. What is value of b_n
9. How do we classify the second order partial differential equation?
10. In the wave equation $\frac{\partial^2 y}{\partial t^2}=a^2\frac{\partial^2 y}{\partial x^2}$ what does a^2 stand for?

PART-B (5 x 16 = 80 Marks)

11.a) Find the root of $xe^x=3$ by Regula falsi method correct to 3 decimal places.

OR

b) Solve the system of equations by Gauss elimination method. $10x-2y+3z=23;\ 2x+10y-5z=-33;\ 3x-4y+10z=41$.

12.a) Using Newton's Forward Interpolation Formula, find the value of Sin 47° given that Sin 45° = 0.7071; Sin 50° = 0.7660; Sin 55° = 0.8192; and Sin 60° = 0.8660.

OR

b) Obtain the value of $y(5)$, using Bessel's formula given

x	0	4	8	12
$f(x)$	143	158	177	199

13.a) (i) Form the partial differential equation by eliminating f from $f\left(xy+z^2,\ x+y+z\right)=0$

(ii) Find the complete solution and singular solution of $z=px+qy+p^2-q^2$

OR

b) Solve $r+s-6t=y\cos x$.

14.a) Obtain the Fourier series for the function $f(x) = x\cos x$ in $(-\pi, \pi)$

OR

b) Find the Fourier series expansion of period 2π for the function $y = f(x)$ which is defined in $(0, 2\pi)$ by means of the table of value given below. Find the series up to the third harmonic

x	0	$\frac{\pi}{3}$	$\frac{2\pi}{3}$	π	$\frac{4\pi}{3}$	$\frac{5\pi}{3}$	2π
y	1.0	1.4	1.9	1.7	1.5	1.2	1.0

15.a) A uniform string is stretched and fastened to two points $x = 0$ and $x = l$ apart. Motion is started by displacing the string into the form of the curve $y = k\sin^3\left(\frac{\pi x}{l}\right)$ and then releasing it from this position at time $t = 0$. Find the displacement of the point of the string at a distance x from one end at time t.

OR

b) square plate is bounded by the lines $x = 0$, $y = 0$, $x = 20$ and $y = 20$. Its faces are insulated. The temperature along the upper horizontal edge is given by $u(x, 20) = x(20 - x)$, while the other three edges are kept at $0^{\circ}C$. Find the steady state temperature distribution in the plate.

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Sl.No. 1914 SUBJECT CODE: 35015303/35016304

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E -DEGREE EXAMINATIONS- NOV/DEC - 2018
COMMON TO CSE AND IT
THIRD SEMESTER
OBJECT ORIENTED PROGRAMMING USING C++

(Candidates admitted under2015 & 2016 Regulations-CBCS)

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Write down the syntax of a class.

2 What is an inline function?

3 Write down the syntax for constructor and destructor.

4 What are the characteristics of destructor?

5 How can member function be declared as template function?

6 How are multiple catch blocks defined?

7 Define inheritance.

8 What is cross casting?

9 What is the stream?

10 List out various types of string handling functions.

PART-B (5 x 16 = 80)

11 a. Write short notes for the following: Access specifier ii. Static variable iii. Message passing iv. Reusability

OR

b. Write a program to calculate simple interest to implement the concept of data encapsulation.

12 a. What is copy constructor? When a copy constructor is called? Explain with example.

OR

b. Write a program to overload binary operator by using friend function.

13 a. Write a program to implement the concept of overloading template function.

OR

(P.T.O)

b. Write a C++ program for uncaught exception.

14 a. Write a C++ program to implement the concept of hierarchical inheritance.

OR

b. Write a short notes on, i. Down casting ii. Virtual base class

15 a. Write a C++ program for random access of files.

OR

b. Explain the following with examples: I) String insert II) String concatenation.

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Sl.No. 1309 SUBJECT CODE: 35015302/35016303

VINAYAKA MISSIONS RESEARCH FOUNDATION

(Deemed to be University)

B.E.DEGREE EXAMINATIONS- NOV/DEC - 2018

COMMON CSE AND IT

THIRD SEMESTER

DATA STRUCTURES

(Candidates admitted under 2015 & 2016 Regulations-CBCS)

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Define Stack ADT (LIFO/FILO).

2 Define Data structure.

3 Construct an expression tree for the following a b + c d e + * *

4 What are the operations possible in a binary search tree?

5 What is the main use of heap?

6 Define array implementation of Binary Heap.

7 Define Open Addressing.

8 When the Disjoint set Union / Find algorithm is dynamic?

9 Define Graph.

10 Define total degree of a graph.

PART-B (5 x 16 = 80)

11 a. Describe in detail about linked list implementation of stack.

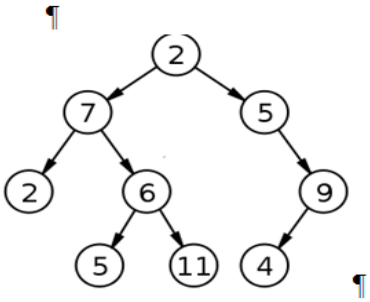
OR

b. Explain Tower of Hanoi problem in detail.

12 a. Explain the concept of binary tree.

OR

b. Perform inorder, preorder and postorder traversals for the tree given below



13 a. Construct a min heap tree for the following 5,2,6,7,1,3,8,9,4.

OR

(P.T.O)

b. Construct a splay tree for the following 8,17,1,14,16,15.

14 a. Explain the separate chaining collision resolution techniques in detail.

OR

b. Show the result of the following sequence of instructions: Union(2,3) Union(3,5) when the unions are
a)Performed arbitrarily
b) Performed by height
c) Performed by size.

15 a. Explain Dijkstra's algorithm with an example.

OR

b. Explain Prim's algorithm with an example.

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Sl.No. 1949 SUBJECT CODE: 35015401/35016401

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E.DEGREE EXAMINATIONS- NOV/DEC - 2018
COMMON TO CSE AND IT
FOURTH SEMESTER
COMPUTER ORGANIZATION AND ARCHITECTURE

(Candidates admitted under 2015 & 2016 Regulations-CBCS)

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Define computer performance factor.

2 Define I/O technique.

3 List out the names of different micro operation.

4 Define abnormal situation handling.

5 Define memory interleaving.

6 Define write back policy.

7 Write the function of device controller.

8 Write any two advantages of asynchronous transfers.

9 What are levels of parallelism?

10 Define MESI protocol.

PART-B (5 x 16 = 80)

11 a. Define I/O techniques & Explain with neat diagram.

OR

b. Discuss in detail about computer architecture & organization.

12 a. Explain with diagram about typical minicomputer data path and mainframe data path.

OR

b. Explain about instruction cycle and decision involved in processor design.

13 a. Explain virtual memory and its mechanism with suitable diagram & list out merits?

OR

b. Explain the following
a. ROM b. Main memory allocation

14 a. Explain the concept of I\O port and instruction of I\O port with neat diagram.

OR

b. What is I/O technique? & explain any 3 methods.

15 a. What are the different approaches of high performance computer architecture and also explain the levels of parallelism?

OR

b. What is multiprocessor systems & explain Interconnection structure.

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Sl.No. 1752 SUBJECT CODE: 35015403/35016403

VINAYAKA MISSIONS RESEARCH FOUNDATION

(Deemed to be University)

B.E-DEGREE EXAMINATIONS- NOV/DEC - 2018

COMMON TO CSE AND IT

FOURTH SEMESTER

JAVA PROGRAMMING

(Candidates admitted under 2015&2016 Regulations-CBCS)

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 How is Java more secured than other languages?

2 Mention the role of Polymorphism in Java.

3 Elucidate on the concept of Inheritance.

4 How will you initialize an array?

5 List out the methods under reflection used to analyze the capabilities of classes?

6 Give short notes on Dynamic proxy.

7 Why Errors are not checked in Java?

8 Differentiate between the 'Font' and 'FontMetrics' class.

9 Mention the different states of a thread.

10 What does the Serializable interface do?

PART-B (5 x 16 = 80)

11 a. With an example code, explain Constructors.

OR

b. With an example describe abstract classes and Differentiate between abstract and concrete classes.

12 a. Explain Arrays in Java with an example.

OR

b. Write a program to a) Compare two strings b) How to search a word inside a string?

13 a. What is object cloning? Explain deep copy and shallow copy with examples.

OR

b. What is proxy class? Develop a Java code for constructing a proxy object.

14 a. How are mouse events generated? Elaborate with sample codes.

OR

b. Explain about layout management available in Java.

15 a. Write a Java program to create and implement threading by implementing the Runnable interface.

OR

b. What is meant by Executors? Explain in detail.

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Sl.No. 1728 SUBJECT CODE: 35015404/35016404

VINAYAKA MISSIONS RESEARCH FOUNDATION

(Deemed to be University)

B.E-DEGREE EXAMINATIONS- NOV/DEC - 2018

COMMON TO CSE AND IT

FOURTH SEMESTER

OPERATING SYSTEMS

(Candidates admitted under 2015& 2016 Regulations-CBCS)

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Define the term "co-operating processes".

2 Give the multithreading models.

3 Define Pre-emptive scheduling.

4 When does a race condition occur?

5 Write some memory management functions.

6 What is TLB?

7 Give examples for file types.

8 What is the use of tree structured directories?

9 Give examples for disk scheduling algorithms.

10 How is the total capacity of the disk calculated?

PART-B (5 x 16 = 80)

11 a. Discuss in detail about the types of system calls with examples.

OR

b. Explain in detail about the threading issues.

12 a. Explain the critical section problem and propose a solution for it.

OR

b. Describe about producer consumer problem.

13 a. Explain about fragmentation in detail.

OR

b. Explain the steps in handling a page fault with diagram.

14 a. Describe about file protection in detail.

OR

b. Explain about directory implementation.

15 a. Describe about the levels of RAID in detail.

OR

b. With diagram explain the Kernel I/O subsystem.

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Sl.No. 1591 SUBJECT CODE: 35015405/35016405

VINAYAKA MISSIONS RESEARCH FOUNDATION

(Deemed to be University)

B.E.DEGREE EXAMINATIONS- NOV/DEC - 2018

COMMON TO CSE AND IT

FOURTH SEMESTER

COMPUTER NETWORKS

(Candidates admitted under 2015 &2016 Regulations-CBCS)

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Define Data communication. Give its uses
2 List out different types of Modems.
3 Specify the types of errors.
4 Write a note on Frame Relay
5 Define IP address.
6 Define datagram.
7 Define error control.
8 Define QoS.
9 Define POP.
10 List out the 2 components of SMTP.

PART-B (5 x 16 = 80)

11 a. With a neat sketch explain OSI layers.

OR

b. Explain in detail circuit switching

12 a. Illustrate the concept of Ethernet 802.3 in detail.

OR

b. Briefly explain the concept of CRC with example.

13 a. Explain IP addressing method.

OR

b. Explain in detail Unicast Routing Protocols.

14 a. Explain congestion control in detail.

OR

b. Answer Briefly: i) End-to-End Delivery ii) Addressing iii)Multiplexing

15 a. Explain the concept of WWW in detail.

OR

b. List out the protocols in application layer, explain with example.

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Sl.No. 1845 SUBJECT CODE: 35016406

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E.DEGREE EXAMINATIONS- NOV/DEC - 2018
INFORMATION TECHNOLOGY
FOURTH SEMESTER
SOFTWARE ENGINEERING AND QUALITY ASSURANCE

(Candidates admitted under 2016 Regulations-CBCS)

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 List out the activities of Linear Sequential Model.

2 What are the characteristics of the software?

3 What is the objective of project planning?

4 How is the scope of the Project defined?

5 List out the software quality assurance activities.

6 Define software safety.

7 State Procedural abstraction.

8 What is meant by transaction mapping?

9 Define process maturity.

10 What are the objectives of glass box testing?

PART-B (5 x 16 = 80)

11 a. Write a detailed note on generic view of software engineering?

OR

b. Explain Evolutionary process model.

12 a. Explain the software process and project metrics.

OR

b. State a systematic way to sort through the options associated with the make/buy decision.

13 a. Describe in detail about quality assurance and standards.

OR

b. Describe about Software Reliability in detail.

14 a. Define software architecture and Explain the five different types of models are used in architectural design

OR

b. State the features of a good design.

15 a. Describe unit testing and integration testing. How test plans are generated.

OR

b. Define system testing & Explain the art of debugging.

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Sl.No. 1555 SUBJECT CODE: 34115501/34115503/34116501

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E.DEGREE EXAMINATIONS- NOV/DEC - 2018
COMMON TO BME,CSE,ECE AND IT
FIFTH SEMESTER
ENVIRONMENTAL SCIENCE AND ENGINEERING

(Candidates admitted under 2015 &2016 Regulations-CBCS)

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 What is called a Mineral? Give two examples.

2 State environmental effects of extracting and using mineral resources.

3 Define producers, consumers and decomposers in an ecosystem.

4 Differentiate between species and genera.

5 Name any four air pollutants and their sources and effects.

6 Define the term incineration.

7 Enlist the objectives of air pollution act.

8 Write an account on issues involved in enforcements of environmental legislation.

9 Explain the term population dynamics.

10 What is meant by telemedicine?

PART-B (5 x 16 = 80)

11 a. Write about the problems and benefits that are faced in constructing a dam.

OR

b. Write about nuclear fission and nuclear fusion.

12 a. Explain various types of Ecological pyramids.

OR

b. Discuss the value of Biodiversity.

13 a. Write in detail about water pollution that is caused by the heavy metals present in it.

OR

b. Explain the case studies due to i) Air pollution ii) Water pollution iii) Marine pollution.

14 a. Discuss water shed management.

OR

b. Write in detail about ozone layer depletion.

15 a. Write a detailed account on the AIDS disease, its transmission tests and prevention measures.

OR

b. Explain how the remote sensing satellites help in the study of environment.

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VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E. DEGREE EXAMINATION- NOV /DEC - 2018
COMMON TO CSE AND IT
Fifth Semester
DISCRETE MATHEMATICS

(Candidates admitted under 2015&2016 Regulations - CBCS)

Time: Three hours Maximum: 100 marks

Answer **ALL** questions

PART – A (10 x 2 = 20 Marks)

1. Obtain a disjunctive normal form of $P \wedge (P \to Q)$.
2. Let P : I will study Discrete mathematics.
3. Symbolize "Sam is poor and Ram is intelligent".
4. Find the truth value of $(x)(P(x) \vee Q(x))$ with $P(x): x = 1, Q(x): x = 2$ and the universe of discourse is $A = \{1, 2\}$.
5. How many students must be in a class to guarantee that at least two students receive the same score on the final exam, if the exam is graded on a scale from 0 to 100 points?
6. There are 6 books on Economics, 3 on Commerce and 2 on History. In how many ways can these be placed on a shelf if books on the same subject are to be together?
7. Check whether $(N, +)$ is a group or not.
8. Define normal subgroup.
9. Define Bounded Lattice.
10. Simplify: $(x + \bar{y} + \bar{z})(x + \bar{y} + z)$.

PART-B (5 x 16 = 80 Marks)

11.a) Without using truth table find the PCNF and PDNF of $(P \to (Q \wedge P)) \wedge (\neg P \to (\neg Q \wedge \neg R))$.

OR

b) Without using the truth table show that

(i) $P \to (Q \to P) \Leftrightarrow \neg P \to (P \to Q)$.

(ii) $(P \to Q) \wedge (R \to Q) \Leftrightarrow (P \vee R) \to Q$.

12.a) Prove that $(x)(P(x) \to (Q(Y) \wedge R(x))), (\exists x) P(x) \Rightarrow Q(y) \wedge (\exists x)(P(x) \wedge R(x))$.

OR

b) Establish the validity of the following argument

"All integers are rational numbers. Some integers are powers of 2.Therefore some rational numbers are powers of 2".

13.a) Solve the recurrence relation $S(k)-4S(k-1)-11S(k-2)+30S(k-3)=0$, with $S(0)=0$, $S(1)=-35$ and $S(2)=-85$.

OR

b) Find the number of integers between 1 and 250 both inclusive that are not divisible by any of the integers 2, 3, 5 and 7.

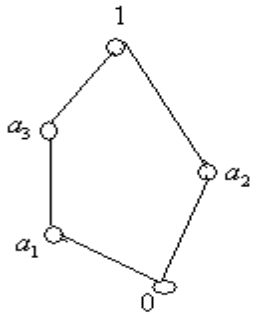
14.a) Prove that a group $(G,*)$ is abelian iff $(a*b)^2=a^2*b^2, \forall a,b\in G$.

OR

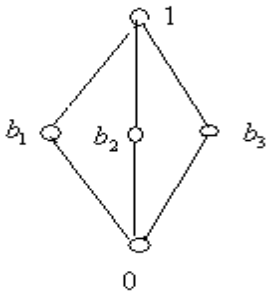
b) (i) Prove that the identity element of a group is unique.

(ii) Prove that the inverse element of a group is unique.

15.a) Check the Lattice given by the diagrams are distributive or not



(a)



(b)

OR

b) Prove the following Boolean lattices

(i) $a\cdot a=a$

(ii) $a+(a'\cdot b)=a+b$

(iii) $a\cdot(a'+b)=a\cdot b$

(iv) $(a\cdot b)+(a\cdot b')=a$

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