

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E.DEGREE EXAMINATIONS- APR/MAY – 2019
First semester
COMMON TO ALL BRANCHES
ENGLISH FOR ENGINEERS
(Candidates admitted under 2015 & 2016 Regulations)

Time: Three hours

Maximum: 100 marks

Answer ALL questions

PART – A (10 x 2 = 20 Marks)**1. Identify the parts of speech for the underlined words.**

- i) I really liked the book that you gave me.
- ii) Sam drives an expensive Old Italian car.

2. Correct the following sentences by identifying the errors.

- i) He was chose as the leader of the group.
- ii) I have got my M.Sc., degree in 1998.

3. Fill in the blanks with suitable articles.

- iii) I bought ----- pair of shoes.
- iv) I read ----- amazing story last night.

4. Identify the silent letters for the given words.

- i) Half ii) Castle

5. Choose the correct homonyms for the following.

- i) Congradulations! I heard you won a gold -----in the swimming competition.
- ii) What kind of fish would you like – salmon or ____? Soul, sole

6. SIMPLE PRESENT TENSE

- v) The train _____ (leave) every morning at 8 A.M.
- vi) A magnet _____ (attract) iron fillings.

7. PAST PERFECT CONTINUOUS

- i) Mike wanted to sit down because he _____ (stand) all day at work.
- ii) Jason was tired because he _____ (jog)

8. Complete the following sentence:

- i) If the weather is rough, _____
- ii) If I had the time, _____

9. Identify the sentence pattern for the following sentences

- i) I congratulated her on her success
- ii) Issac Newton discovered the gravitational force of earth.

10. Write sentences of your own for the following sentence patterns.

- i) SVC ii) SVOA.

PART – B (5 x 16 = 80 Marks)

11.a) Write a telephonic conversation between an employer and his employee, who seeks permission for a day leave.

OR

b) Define diphthongs and explain with examples.

12. a) Describe a memorable incident in your life

OR

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

13. a) As a Project leader in a software company you are asked to prepare a report on the on going project and send it to the company head quarters. Prepare a report on the project.

OR

b) Write a report of an accident you have witnessed to the daily news paper.

14. a) Explain in detail about Scanning.

OR

b) Define and describe about the washing machine.

15. Read the passage and draw a flow chart.

a) The earth contains a large number of metals which are useful to man. One of the most important of these is iron. The iron ore which we 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 inviting him for your birthday celebration.

VINAYAKA MISSIONS RESEARCH FOUNDATION
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B.E.DEGREE EXAMINATIONS- APR/MAY - 2019
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 What are elastic bodies?
- 2 What is I-shaped girder?
- 3 Define: no. of atoms per unit cell.
- 4 Give the atomic radius and packing factor for SC
- 5 Define: Stimulated absorption
- 6 What is population inversion?
- 7 Draw the structure of optical fibre.
- 8 What is Numerical aperture.
- 9 What is a developer? Give example.
- 10 What are the difference between X-ray radiography and X-ray fluoroscopy?

PART-B (5 x 16 = 80)

- 11 a. Describe about the three types of elastic moduli.

OR

- b. Describe about the experimental determination of rigidity modulus.

- 12 a. Explain in detail about seven crystal systems with neat diagram.

OR

- b. Write a note on the following i) Point defect, ii) line defect.

- 13 a. Describe the construction and working of CO₂ laser with necessary diagram.

OR

- b. Explain the following terms
i. population inversion ii. pumping process iii. laser action

- 14 a. Describe briefly the optical fibre communication system.

OR

- b. Write down the classification of fibers on the basis of (i) material (ii) number of modes (iii) refractive index.

- 15 a. Explain the working of ultrasonic flaw detector with neat diagram.

OR

- b. Explain different ultrasonic scanning techniques.

VINAYAKA MISSIONS RESEARCH FOUNDATION
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B.E.DEGREE EXAMINATIONS- APR/MAY - 2019
COMMON TO CSE,BME,CIVIL,EEE,ECE,MECH AND MECT
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 Write any four applications of Computer.
- 3 How you can add page number in MS Word?
- 4 List out the major features of Power Point.
- 5 Define flowchart.
- 6 What is mean by looping?
- 7 What is top down approach of software development?
- 8 How to implement in an algorithm in an efficient way?
- 9 Mention any four HTML Tags.
- 10 What are the Hyperlink, Anchors and Link in the HTML?

PART-B (5 x 16 = 80)

- 11 a. Describe the various types of Computers.

OR
- b. Describe the services provided by Internet.
- 12 a. Briefly explain table menu in MS Word.

OR
- b. Explain Tools menu in MS Word
- 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 to find the given number is odd or even.
- 14 a. Explain in detail about problem solving strategies with example.

OR
- b. Discuss in detail about analysis of algorithm.
- 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.

VINAYAKA MISSIONS RESEARCH FOUNDATION
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B.E.DEGREE EXAMINATIONS- APR/MAY - 2019
MECHATRONICS
FIFTH SEMESTER
SENSORS AND ELECTRONIC MEASUREMENTS

(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 Gross Error.
- 2 State the fundamental SI units.
- 3 Why the temperature transducer having negative temperature coefficient is more sensitive? And which temperature transducer is having NTC ?
- 4 Define gauge factor.
- 5 Define programmable divider
- 6 What are types of Frequency synthesizing?
- 7 Narrate the considerations in choosing an analog voltmeter.
- 8 What is the importance of gate time in frequency counter?
- 9 What is IFC?
- 10 Define REN.

PART-B (5 x 16 = 80)

- 11 a. Explain in detail the static and dynamic characteristics of measurement system.
OR
b. Explain the Schering Bridge with necessary diagram. Mention its applications.
- 12 a. What is Strain Gauges? Explain the operating principle of strain gauges. Explain any one electrical resistance strain gauges.
OR
b. How temperature is measured using Fiber optic sensor?
- 13 a. Narrate the basic functions of the Frequency synthesized signal generator with block diagram.
OR
b. Discuss about Heterodyne wave analyzer with block diagram.
- 14 a. Explain the various Display Counters with circuit diagram
OR
b. Explain with a neat block diagram the operation of ramp type digital voltmeter.
- 15 a. Describe the IEEE 488 Bus Standard with schematic diagram.
OR
b. Discuss about Signal Timing in a Microprocessor based measurement with timing diagram.

VINAYAKA MISSIONS RESEARCH FOUNDATION
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B.E.DEGREE EXAMINATIONS- APR/MAY - 2019
MECHATRONICS
SIXTH SEMESTER
PROGRAMMABLE LOGIC CONTROLLER

(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 Mention the classification of PLD's.
- 2 Draw the structure of RAM.
- 3 Compare the analog and digital I/O modules.
- 4 Define Memory.
- 5 Define Latching Relay.
- 6 Define starters.
- 7 State ON DELAY timer.
- 8 What are the types of timer?
- 9 Give two common applications of counter.
- 10 Mention the sensors used in Automatic car washing machine.

PART-B (5 x 16 = 80)

- 11 a. Design and implement a combinational logic using ROM.
OR
b. Explain in detail the programmable logic structures of FPGA.
- 12 a. Elaborate the function of the hardware components used in PLC.
OR
b. Elaborate the PLC size and its applications.
- 13 a. Explain the different types of photo electric sensor. List of applications
OR
b. Discuss the Sequential and Combinational control processes.
- 14 a. Elaborate then on-retentive and retentive timer.
OR
b. Illustrate about up counter with example.
- 15 a. Describe the counter design for the automation of Conveyor belt motor control.
OR
b. Describe briefly about the motor driven analog proportional control valve.

VINAYAKA MISSIONS RESEARCH FOUNDATION
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B.E.DEGREE EXAMINATIONS- APR/MAY - 2019
MECHATRONICS
SIXTH SEMESTER
ROBOTICS AND AUTOMATION

(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 List out the types of Grippers?
- 2 What is mean by Automation?
- 3 Define voice Sensor.
- 4 Define thresholding.
- 5 Write down the types of mechanical gripper.
- 6 What are the uses of Vacuum gripper?
- 7 What is link?
- 8 Define the term “Branching” in robot programming.
- 9 What is teach pendent?
- 10 What is pick and place operation?

PART-B (5 x 16 = 80)

- 11 a. Elucidate about the Asimov’s Laws of Robotics and discuss Degree of Freedom.
OR
b. Describe about the different types of Automation
- 12 a. Enlighten with necessary diagrams about the touch, force and torque sensors.
OR
b. Write in detail about CCD cameras.
- 13 a. Explain about the design considerations of a gripper.
OR
b. Discuss in detail about the Lagrange formulation.
- 14 a. Explain in detail about the Reverse kinematics.
OR
b. Write in detail about the Inverse kinematics.
- 15 a. Describe about the Specific Programming Language.
OR
b. Discuss about the robots for nuclear power plant.

VINAYAKA MISSIONS RESEARCH FOUNDATION
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B.E.DEGREE EXAMINATIONS- APR/MAY - 2019
MECHATRONICS
SIXTH SEMESTER
DESIGN OF MECHATRONICS 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 What are the components used in brushless DC motors?
- 2 Define actuator.
- 3 Define load conditions.
- 4 Define isolation.
- 5 What are the major components of DAC system?
- 6 Define real-world process.
- 7 What are the objectives in transducer calibration system for automotive system?
- 8 Draw the strain gauge weighing system application diagram.
- 9 Write about case study of “controlling temperature of a hot and cold reservoir”
- 10 Write about case study of tension control system”

PART-B (5 x 16 = 80)

- 11 a. Explain about continuous and limited rotation of hydraulic motors.
OR
b. Briefly explain remotely controlled coupling in pneumatic circuits.
- 12 a. Explain integrated product design.
OR
b. Explain briefly about industrial design and ergonomics.
- 13 a. Explain briefly application software using Labview environment.
OR
b. Explain briefly controlling a stepper motor
- 14 a. Briefly explain solenoid force and displacement system.
OR
b. Explain the cause's studies on data acquisition.
- 15 a. Explain overview & experiment of skip control of a CD player.
OR
b. Explain motion control using solenoids.
