VINAYAKA MISSIONS RESEARCH FOUNDATION, SALEM
(Deemed to be University)
B.E/ B.Tech. DEGREE EXAMINATION – APRIL– 2022
COMMON TO ALL BRANCHES
TECHNICAL ENGLISH
(Candidates admitted under 2021 Regulations - SCBCS)

Time: Three hours   Maximum: 100 marks

Answer **ALL** questions
PART – A (10 x 2 = 20 Marks)

1. What is a SOAR analysis?

2. What are threats in a SWOT analysis?

3. Tell any two barriers to verbal communications.

4. **Identify the parts of speech for the underlined words.**

   i)   The truck driver delivered the packages <u>quickly.</u>
   ii) Sam drives an <u>expensive</u> old Italian car.

5. **Identify the errors and correct the following the sentences.**

   i) The Rajdhani Express run on time.
   ii) I look forward for your next visit.

6. **Explain the following words**

   i) Barometer

   ii) Laser Technology

7. **Identify the suitable articles and fill in the blanks.**

   i)   They are staying at -**----------** hotel.
   ii)   Alice loves walking in ----------- rain.

8. 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

9. **Complete the following sentence with the right form of 'if clause'.**
   i) If he stopped smoking, _____
   ii) If I had the time, _____

10. **Identify the sentence pattern for the following sentences.**

   i)   Computer has made our work easy nowadays.
   ii) The song made me sad.

Part-B (5 x 10 =50 Marks)
Answer Any Five questions

11. a) Explain the characteristics of a good listener.

OR

   b) Explain the formal interview and its features.

12. a) Explain Plosives and Fricatives with examples.

OR

   b) Explain the difference between homophones and homonyms

13. a) Describe the process of booking a train ticket through an offline mode.

OR

   b) Write a paragraph on school life.

14. a) List out a few tips to improve the reading speed.

OR

   b) SVO, SVC, SVA, SVOC, ASV, SVOA, SVCA, SV, SVIODO, SVOCA: Construct Sentences.

15. a) Describe are the components in a sentence, give the basic sentence patterns with examples

OR

   b) Read the passage and draw a Bar Chart.

      The bar chart illustrates the gross domestic product generated from the IT and Service Industry in the UK from 1992 to 2000. It is measured in percentages. Overall, it can be seen that both increased as a percentage of GDP, but IT remained at a higher rate throughout this time. At the beginning of the period, in 1992, the Service Industry accounted for 4 percent of GDP, whereas IT exceeded this, at just over 6 percent. Over the next four years, the levels became more similar, with both components standing between 6 and just over 8 percent. IT was still higher overall, though it dropped slightly from 1994 to 1996. However, over the following four years, the patterns of the two components were noticeably different. The percentage of GDP from IT increased quite sharply to 12 in 1998 and then nearly 15 in 2000, while the Service Industry stayed nearly the same, increasing to only 8 percent. At the end of the period, the percentage of GDP from IT was almost twice that of the Service Industry.

Part-C (2 x 15 =30 Marks)

Answer All questions

19.a) Explain how to communicate effectively by using minimum words.

OR

b) Explain 44 IPA sounds with examples.

20. a) Describe the importance of reading practice and give suggestions to improve reading speed

OR

b) Write a letter to Mr. Simon, General Manager, Orbit Solutions, UK, confirming his visit to your college next week. Make sure to include details like date and time of arrival, and stay.

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Sl.No. 2006

VINAYAKA MISSION'S RESEARCH FOUNDATION
(Deemed to be University)
B.E.DEGREE EXAMINATIONS- APRIL - 2022
COMMON TO ALL BRANCHES
PHYSICAL SCIENCES
(Candidates admitted under 2021 Regulations-SCBCS)

Time : 1 1/2 Hours   Maximum Marks:50 Marks

PART A - ENGINEERING PHYSICS

Answer **ALL** questions
Part-A (5 x 2 =10 Marks)

1   Recognize the characteristics of laser.
2   Schedule any two applications of holography.
3   Tell about the characteristics of graded index multimode fiber.
4   Express about piezo-electric effect.
5   Schedule the Industrial applications of ultrasonic waves

Answer **Any FIVE** questions
Part-B (2 x12 =24 Marks)

6 a.   Predict the applications of laser in communication, military and chemical fields.

OR

  b.   Express the various types of fibers based on refractive index profile.

7 a.   Practice obtaining the expression for velocity of SONAR.

OR

  b.   Interpret the biological and chemical applications of ultrasonics.

Answer ALL questions
PART-C (1 x 16 = 16)

8 a.   Tell about holography. Illustrate the construction and working of holography with neat diagram.

OR

  b.   Demonstrate piezo- electric effect? Explain with a neat circuit, the generation of ultrasonic using a piezo- electric oscillator.

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PART B - ENGINEERING CHEMISTRY
(Candidates admitted under 2021 Regulations-SCBCS)

Time : 1 1/2 Hours   Maximum Marks:50 Marks

Answer **ALL** questions
Part-A (5 x 2 =10 Marks)

1   What is EDTA? Write its structure?
2   How calgon conditioning is superior than other methods?
3   Define electrochemical series.
4   State pilling bed worth rule.
5   Recall cetane number.

Answer **Any FIVE** questions
Part-B (2 x12 =24 Marks)

6 a.   How is exhausted resin regenerated in an ion-exchanger? What are merits and demerits of ion-exchange method?

OR

   b.   List out the various water quality parameters for the drinking water.

7 a.   Discuss about electrochemical series and their applications.

OR

   b.   What is power alcohol? Explain its manufacture, properties of power alcohol.

Answer ALL questions
PART-C (1 x 16 = 16)

8 a.   How is internal treatment of boiler water carried out using phosphate, Carbonate, Sodium aluminate and calgon conditioning?

OR

   b.   Explain Otto-Hoffman's by product oven method for manufacture of metallurgical coal.

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S.No.2005

VINAYAKA MISSION'S RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- APRIL -2022
FIRST SEMESTER

SMART MATERIALS AND NANOTECHNOLOGY
(Candidates admitted under 2021 Regulations-SCBCS)

Time : Three Hours   Maximum Marks:100 Marks

Answer ALL questions
Part-A (10 x 2 =20 Marks)

1   Give the structural difference between Martensite and Austenite crystal phases
2   List down the materials that exhibit shape memory characteristics.
3   State Infra red radiation
4   Name any four types of smart actuators
5   Define: polymer actuators
6   Define Quantum dot
7   Define Nanocomputing
8   Name the techniques used in the diagnosis of cancer
9   Write down the applications of photoelastic effect
10   Name the coating materials that effectively block the IR radiation.

Answer Any FIVE questions
Part-B (5 x10 =50 Marks)

11 a.   With a schematic sketch how piezoelectic effect allows piezoelectric materials to convert electric energy into mechanical energy.

OR

b.   With a schematic sketch how Magnetostriction effect allows magnetostrictive materials to convert electromagnetic energy into mechanical energy.

12 a.   Write a note on piezoelectricity and piezoelectric actuator materials. List down their applications and advantages

OR

b.   Size effect influences the materials mechanical property. Explain using Hall-Petch equation

13 a.   List down the types of Nanocomputing. Explain the benefits and applications of nanocomputing

OR

b. Describe smart materials and explain their applications in various fields.

14 a. Describe the properties and applications of shape memory alloys

OR

b. Write a note on Magnetostriction effect and magnetostrictive materials. List down their applications

15 a. Discuss the functions and response of piezoelectric materials in a pressure sensor

OR

b. Explain the property and working principle of photoelastic sensor materials

16 a. Discuss the function and applications of smart actuator materials

OR

b. With a schematic diagram explain the working performance of low potential polymer based actuators

17 a. Discuss the working principle of a magnetostrive actuator material

OR

b. Write down the types, advantages and benefits of nano scale materials for Biomedical applications

18 a. With schematic diagrams, explain the performance of Molecular switch

OR

b. Describe the applications and limitations of single electron transistors

Answer ALL questions
PART-C (2 x 15 = 30)

19 a. Write a note on Magnetostriction and magnetostriction materials. With schematic diagrams explain the working principle of magnetostrictive materials

OR

b. Discuss the importance of smart polymer biomaterials for tissue engineering and bone regeneration processes

20 a. Write a note on Bone tissue engineering. Explain the importance and benefits of carbon nanotubes in Bone tissue engineering.

OR

b. Write a note on piezoelectric actuator. Explain the working principle of a piezoelectric actuator

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SL.NO:2210