

I B. Tech I Semester Supplementary Examinations, June/July-2024
COMMUNICATIVE ENGLISH

(Common to EEE, CSE, Chemical E, FT, PT, Ph. Engg)

Time: 3 hours

Max. Marks: 70

Note: 1. Question paper consists of two parts (Part-A and Part-B)
2. All the questions in Part-A is Compulsory
3. Answer ONE Question from each Unit in Part-B

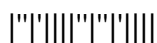
PART –A (20 Marks)

1. a) Give the synonym of : (a) bliss (b) evil [2M]
- b) Give the antonym of (a) sharp (b) crisp [2M]
- c) Use the following prefixes to make words : (a) in- (b) dis- [2M]
- d) Use the following suffixes to make words : (a)- ity (b) -tion [2M]
- e) Fill in the blanks using suitable articles [2M]
 - (a) I watched _____ semi-final between Argentina and Croatia. (a/an/the)
 - (b) Messi is _____ best player on earth. (a/an/the)
- f) Fill in the blanks with suitable prepositions [2M]
 - (a) My birthday is _____June.
 - (b) She was _____ a diet of carrot soup and bread.
- g) Fill in the blanks using the correct word. [2M]
 - (a) She _____ (complemented/complimented) me on my excellent English.
 - (b) The college is enjoying a winter (brake/break).
- h) Rewrite the sentences in reported speech. [2M]
 - (a) Rama said, "I saw a Royal Bengal Tiger in the zoo."
 - (b) The traffic police said to us, "Where are you going?"
- i) Correct the following sentences. [2M]
 - (a) I seen him last night.
 - (b) I caught a lot of fish today.
- j) Rewrite the sentences in passive voice. [2M]
 - (a) The headmaster called his parents to the office.
 - (b) Ben will direct the show.

PART – B (50 MARKS)

UNIT-I

2. a) The *Gift of the Magi* is a story of hope in the times we live in. Do you agree with this statement? [5M]
 - b) Introduce any member of your family or your best friend to the reader of this essay. [5M]
- (OR)**
3. a) True love can survive the greatest of trials and tribulations. How is this brought about in the story ' *The gift of the Magi* ' ? [5M]
 - b) Name two hobbies that you have. Tell the reader how you developed an interest in them. [5M]



UNIT-II

4. a) Explain the central message of the poem 'The Brook'. [5M]
b) Write a paragraph on: my favourite sport. [5M]

(OR)

5. a) How is human life compared to the steady flow of water in a stream? Explain with reference to 'The Brook'. [5M]
b) Write a paragraph on: my favourite sports person. [5M]

UNIT-III

6. a) If you were to rate Elon Musk as an innovator and entrepreneur, on what basis will you evaluate him? [5M]
b) Make notes on the following passage : [5M]

Although stupidity is commonly defined as 'a lack of normal intelligence', stupid behaviour is not the behaviour of a person lacking in intelligence but the behaviour of a person not using good judgement or sense. In fact, stupidity comes from the Latin word that means 'senseless'. Therefore, stupidity can be defined as the behaviour of a person of normal intelligence who acts in a particular situation as if he or she isn't very bright. Stupidity exists at three levels of seriousness.

First is the simple, relatively harmless level. Behaviour at this level is often amusing. It is humorous when someone places the food from a fast-food restaurant on the roof of the car while unlocking the door and then drives away with the food still on the roof. We call this absent-minded. The person's good sense or intelligence was temporarily absent. At this level, other than passing inconvenience or embarrassment, no one is injured by stupid behaviour.

The next type-serious stupidity-is more dangerous. Practical jokes such as putting sugar in the salt shakers are at this level. The intention is humorous, but there is a chance of harm. Irresponsible advice given to others is also serious stupidity. An example is a person who plays psychiatrist on the basis of an introductory psychology course or doing a TV program on psychiatry. The intention may be to help, but if the victim really needs psychiatric help an amateur will only worsen the situation.

(OR)

7. a) Why is Elon Musk famous? Name some of his achievements. [5M]
b) Make notes on the following passage : [5M]

The foodstuffs rich in dietary fibres are cereals and grains, legumes, fruits with seeds, citrus fruits, carrots, cabbage, green leafy vegetables, apples, melons, peaches, pears etc.

These dietary fibres are not digested by the enzymes of the stomach and the small intestine whereas most of other carbohydrates like starch and sugar are digested and absorbed. The dietary fibres have the property of holding water and because of it, these get swollen and behave like a sponge as these pass through the gastrointestinal tract. The fibres add bulk to the diet and increase transit time in the gut. Some of these fibres may undergo fermentation in the colon.



In recent years, it has been considered essential to have some amount of fibres in the diet. Their beneficial effects lie in preventing coronary heart disease, and decreasing cholesterol level. The fibres like gums and pectin are reported to decrease postprandial (after meals) glucose level in the blood. These types of dietary fibres are recommended for the management of certain types of diabetes. Recent studies have shown that the fenugreek (Methi) seeds, which contain 40 per cent gum, are effective in decreasing blood glucose and cholesterol levels as compared to other gum containing vegetables.

UNIT-IV

8. a) Was the objective of teaching children about war and peace achieved in “*The toys of Peace?*” [5M]
b) Prepare your cover letter for an upcoming job interview including relevant details. [5M]

(OR)

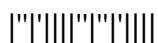
9. a) Old habits die hard. How is this brought about in *The toys of Peace?* [5M]
b) Prepare your resume for an upcoming job interview with relevant details. [5M]

UNIT-V

10. a) What are the main points that figure in the essay on intrapersonal communication? [5M]
b) You bought a mobile phone from a department store. The mobile phone developed a problem within a month of purchase. Write a letter to the dealer giving details of the nature of the problem and asking him/her to rectify the defect or replace the set. [5M]

(OR)

11. a) Can one function effectively at the workplace without adequate knowledge of intrapersonal communication? [5M]
b) Write a letter to the Principal of your college requesting faster internet connectivity on campus and in hostels. Assume relevant data. [5M]



I B. Tech I Semester Supplementary Examinations, June/July-2024**ENGINEERING PHYSICS**

(Common to CE, ME, ECE, IT, AME, Mining E, Robotics, Agri E, ECE-Allied, CSE-Allied)

Time: 3 hours

Max. Marks: 70

*Note: 1. Question paper consists of two parts (Part-A and Part-B)**2. All the questions in Part-A is Compulsory**3. Answer ONE Question from each Unit In Part-B***PART –A (20 Marks)**

1. a) Explain the principle of Superposition of waves. [2M]
- b) The refractive index for water is 1.33. Calculate the polarising angle for water. [2M]
- c) Define 'Coordination Number' and 'Nearest Neighbor Distance' in a crystal structure. [2M]
- d) State and explain Bragg's law. [2M]
- e) What is the effect of temperature on electronic and orientation polarizations? [2M]
- f) Distinguish between soft and hard magnetic materials. [2M]
- g) Explain Heisenberg's uncertainty principle. [2M]
- h) Find the energies of the ground and the first excited states of an electron in a one dimensional potential box of length '2a'. [2M]
- i) What are valence and conduction bands? [2M]
- j) Explain the effect of impurity concentration on Fermi level in n-type semiconductor. [2M]

PART – B (50 MARKS)**UNIT-I**

2. a) Obtain the conditions for maxima and minima due to interference in thin film of uniform thickness for reflection geometry. [7M]
- b) If the diameter of the 10th dark ring in Newton's rings experiment due to light of wave length 600nm is 4mm, find the radius of curvature of the plano-convex lens. [3M]

(OR)

3. a) Prove that the intensities of secondary maxima formed for Fraunhofer diffraction due to single slit decrease with increasing order. [7M]
- b) Compute the minimum number of lines required in a grating to resolve the sodium doublet ($\lambda_1=5890$ AU and $\lambda_2=5896$ AU) for the case of second order spectrum. [3M]

UNIT-II

4. a) Show that FCC is the more closely packed than SC, BCC crystal systems [7M]
- b) Copper has FCC structure and the atomic radius is 0.1278 nm. Calculate the inter planar spacing for (1 1 0) planes. [3M]

(OR)

5. a) Derive expression for inter planar spacing between two adjacent planes of Miller indices (h,k,l) and lattice constant 'a'. [6M]
- b) Draw ($\bar{2}10$), (111), (101) and (121) planes in cubic crystal system. [4M]



UNIT-III

6. a) Define dielectric polarization and polarizability. [2M]
b) Derive an expression for Lorentz Internal field for a dielectric material with cubic Symmetry. [8M]

(OR)

7. a) Discuss the origin of magnetism in materials. Explain in detail the classification of magnetic materials. [7M]
b) A circular loop of copper having a diameter of 10cm carries a current of 500 mA. Calculate the magnetic moment associated with the loop. [3M]

UNIT-IV

8. a) Derive the time independent Schrodinger's wave equation for a free particle. [7M]
b) Explain the physical significance of wave function through ortho normalization condition. [3M]

(OR)

9. a) What is Fermi level? Explain the Fermi-Dirac distribution function of electrons. Explain the effect of temperature on the distribution function. [5M]
b) Derive the expression for density of states. [5M]

UNIT-V

10. a) Distinguish between intrinsic and extrinsic semiconductors with suitable examples. [3M]
b) Derive an expression for the density of holes in the valence band of an intrinsic semiconductor. [7M]

(OR)

11. a) State and explain Hall effect. Derive the expression for the Hall coefficient. [7M]
b) Write any three applications of Hall effect. [3M]

