

FACULTY OF ENGINEERING
BE I Year (Backlog) Examination, May/June 2019

Subject: Engineering Physics

Time: 3 Hours

Max. Marks: 75

Note: Answer all questions from Part-A, & any five Questions from Part-B

PART – A (25 Marks)

1. Distinguish between *Fresnel* and *Fraunhofer* Diffraction? (3)
2. Mention few applications of *holography*? (2)
3. State the expression for Rayleigh Jean's law? (2)
4. An optical fiber has a core refractive index 1.6 and refractive index of cladding 1.58. find its Numerical Aperture and Acceptance Angle? (2)
5. Explain Packing fraction for Body centered Cubic crystal? (3)
6. Explain the concept of *Fermi level* in Semiconductor? (3)
7. Give different types of *Polarizations* in Dielectrics? (3)
8. Mention few applications of Ferrites? (2)
9. Give few applications of *Thin films*? (2)
10. State the properties of materials at nano size? (3)

PART – B (50 Marks)

11. (i) What is interference of light? Deduce the conditions for maxima and minima of interference fringes formed by thin films? (5)
- (ii) Describe the construction and working of Half Shade Polarimeter? (5)
12. (i) Deduce the expression for Bose-Einstein distribution law? (5)
- (ii) Discuss the particle motion in an Infinite square well potential by using Schrodinger's wave equation? (5)
13. (i) Obtain an expression for the equilibrium construction of Schottky defects in crystals? (5)
- (ii) What is Hall Effect? Derive the Hall parameters in the case of Semiconductors? (5)
14. (i) Describe the experimental determination of dielectric constant by Capacitance Bridge Method? (5)
- (ii) Explain the reason for the formation of domain structure in ferromagnetic materials and how the Hysteresis Curve is explained on the basis of the Domain theory? (5)
15. (i) Explain the construction of Solar Cell? Deduce the related parameters of the Solar Cell? (5)
- (ii) Describe the construction and working of TEM? (5)
16. (i) Describe the preparation of Nano materials by CVD method? (5)
- (ii) Discuss the *Kronig-Penny* model for energy bands in solids qualitatively? (5)
17. (i) Discuss the Construction and reconstruction of image of hologram? (5)
- (ii) Deduce the expression of Planck's law for distribution of blackbody radiation? (5)

FACULTY OF ENGINEERING

B.E. /B.Tech. (B. C) II-Semester (Backlog) Examination, May /June 2019

Subject: English

Time: 3 Hours

Max. Marks: 75

Note: Answer all questions from Part A and & any five questions from Part B

PART – A (25 Marks)

I. Rewrite any Ten of the following sentences after making necessary corrections.

(10 x 1 = 10 marks)

1. Everyone have attended the meeting.
2. One of my friends have visited Mysore.
3. Sheela has watched the movie yesterday.
4. The cow is useful animal.
5. She is one of my best friend.
6. Geetha is having two cars.
7. Where is the scissors?
8. Rama has known Smith since three years.
9. Could you return back the library cards to me, please?
10. Harsha don't know Hindi.

A. Convert the following sentences into passive voice.

(5x1=5marks)

1. She wrote a letter.
2. Close the door.
3. Ragini is singing a song.
4. I will buy the English text book.
5. He drafts a report.

B. Read the following sentences and fill in the gaps by using the correct form of the words from the options given below. (5x1=5marks)

(Voluntary, renowned, fictitious, confessed, ignorant, remarkable)

1. He is ___ of the mission.
2. Rehman is a _____ singer.
3. I read a _____ story.
4. He took _____ retirement.
5. She had done _____ work in her project.

C. Mark the stress on the following words: (5x1=5marks)

1. Blackboard 2. Myself 3. Reduce 4. Narrate 5. Examination

PART – B (50Marks)**I. A. Read the following passage and answer the questions that follow.**

There is another way of flattering important people which has become very common, I notice, among writers in the newspapers and elsewhere. It consist in applying to them the phrases 'simple', or 'quiet', or 'modest', without any sort of meaning or relations to the person to whom they are applied. To be simple is the best thing in the world; to be modest is the next best thing. I am not so sure about being quiet. I am rather inclined to think that really modest people make a great deal of noise. It is quite self-evident that really simple people make a great deal of noise. But simplicity and modesty, at least, are very rare and royal human virtues, not to be likely talked about. Few human beings, and at rare intervals, have really risen into being modest; not one man in ten or in twenty has by long wars become simple, as an actual old soldier does by long wars become simple. These virtues are not things to fling about as mere flattery; many prophets and righteous men have desired to see these things and have not seen them. But in the description of the births, lives and deaths of very luxurious men to describe a great politician or financiers (the things are substantially the same) entering a room or walking down a thoroughfare, he always says, 'Mr. Midas was quietly dressed in a black frock coat, a white waistcoat, and light grey trousers, with a plain green tie and simple flower in his button-hole.' As if any one would expect him to have a burning Catherin wheel in his button-hole.

1. Phrases like 'simple', 'quiet' or 'humble' are often used by
 - a) Journalists
 - b) Factory workers
 - c) Politicians
2. Which of these are rare human virtues?
 - a) Talkativeness
 - b) Simplicity and modesty
 - c) Friendliness and humility
3. What is the meaning of righteous?
 - a) Virtue
 - b) abnormal
 - c) rigid
4. What is another way of flattering important people?
 - a) By using phrases like simple, modest and quiet.
 - b) By using high sounding vocabulary.
 - c) By using pleasing words.
5. What are the colours of Mr. Midas' dress?
 - a) Black, white and grey
 - b) Blue, black, white
 - c) Grey, blue, white.

OR**B.** What do you know about Sadie in the story 'A Slip of the Tongue.'**II. A.** Write a report on a train accident.**OR****B.** Draft a report on your visit to an industry. The report may include the following headings; history or introduction, capital, products, manpower and future prospects.**III. A.** Use the following phrases to make a meaningful paragraph.

1. Summer vacation
2. the happiest period for children.

Contd..3

3. Mangoes and ice-cream
4. No tension of exam.
5. Swimming and enjoying
6. Visiting many places
7. Summer school
8. Utilizing time
9. Visiting coaching centres
10. Learning new things

OR

- B.** What good manners should we follow when we are with friends? What precautions should one take while speaking in a company?

- IV. A.** Apply for the post of a Software Developer, in Cognizant Technology Solutions as an engineering graduate.

OR

- B.** Write a letter to Ramakrishna Central Book Store complaining about the receipt of the damaged set of books you ordered for.

- V. A.** "Mobile is more boon than a bane" Write an essay in about 300 words.

OR

- B.** Write about your most memorable moment in your life in 300 words.
