

Code No: 152AD

R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech I Year II Semester Examinations, August - 2019

ENGLISH

(Common to CE, ME, ECE, AE, PTM)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A

(25 Marks)

- 1.a) Form opposites of the words given below by adding Prefixes: [2]
 - i) Climax
 - ii) Confirmed
- b) Write synonyms of the following words: [2]
 - i) Pragmatic
 - ii) Spectrum
- c) Use the following words in the sentence of your own: [2]
 - i) Xenophobia
 - ii) Claustrophobia
- d) Identify and delete the redundant words/phrases from the following sentences: [2]
 - i) Foreign imports during the financial year 2017-18 reduced considerably.
 - ii) It is better that the assessments are postponed until later.
- e) Identify the errors in tenses in the following sentences and correct them: [2]
 - i) When I was walking in the park, I was hearing a loud noise.
 - ii) Samuel is being a lecturer in an Engineering college.
- f) Spot the errors in the following sentences and correct them: [3]
 - i) If they would want to, they can host the event.
 - ii) If it will be sunny, the guests will want some lemonade.
 - iii) If I am having more money, I would bought a house.
- g) Write antonyms of the following words: [3]
 - i) Exaggerate
 - ii) Benevolent
 - iii) Conceited
- h) Use the following words in the sentence of your own: [3]
 - i) Ornithologist
 - ii) Bigamy
 - iii) Seismograph
- i) What are clichés? Give three examples. [3]
- j) Identify the errors in tenses in the following sentences and correct them: [3]
 - i) The tall soldier led the parade with the beard.
 - ii) The results will only be known after all the votes have been counted.
 - iii) He nearly drives the car for eight hours every day.

PART-B

(50 Marks)

- 2.a) Why was Raman awarded Nobel Prize?
b) What are the techniques used to write precisely?

[5+5]

OR

- 3.a) Write a paragraph on Social Media.
b) What is the difference between a comparative and a descriptive paragraph?

[5+5]

- 4.a) Name some of the major dynasties of South India.
b) Write a letter to the Commissioner of Police, complaining about the chain snatchers in your colony.

[5+5]

OR

5. Write a letter of Application for the post of Junior Scientist in DRDO. Enclose Resume.

[10]

6. Read the following passage and answer the questions given below:

[10]

Mike and Morris lived in the same village. While Morris owned the largest jewelry shop in the village, Mike was a poor farmer. Both had large families with many sons, daughters-in-law and grandchildren. One fine day, Mike, tired of not being able to feed his family, decided to leave the village and move to the city where he was certain to earn enough to feed everyone. Along with his family, he left the village for the city. At night, they stopped under a large tree. There was a stream running nearby where they could freshen up themselves. He told his sons to clear the area below the tree, he told his wife to fetch water and he instructed his daughters-in-law to make up the fire and started cutting wood from the tree himself. They didn't know that in the branches of the tree, there was a thief hiding. He watched as Mike's family worked together and also noticed that they had nothing to cook. Mike's wife also thought the same and asked her husband "Everything is ready but what shall we eat?" "Mike raised his hands to heaven and said" "Don't worry. He is watching all this from above. He will help us."

The thief got worried as he had seen that the family was large and worked well together. Taking advantage of the fact that they did not know he was hiding in the branches, he decided to make a quick escape. He climbed down safely when they were not looking and ran for his life. But, he left behind the bundle of stolen jewels and money which dropped into Mike's lap. Mike opened it and jumped with joy when he saw the contents. The family gathered all their belongings and returned to the village. There was great excitement when they told everyone how they got rich.

Morris thought that the tree was miraculous and this was a nice and quick way to earn some money. He ordered his family to pack some clothes and they set off as if on a journey. They also stopped under the same tree and Morris started commanding everyone as Mike had done. But no one in his family was willing to obey his orders. Being a rich family, they were used to having servants all around. So, the one who went to the river to fetch water enjoyed a nice bath. The one who went to get wood for fire went off to sleep. Morris's wife said "Everything is ready but what shall we eat?" Morris raised his hands and said, "Don't worry. He is watching all this from above. He will help us." As soon as he finished saying, the thief jumped down from the tree with a knife in hand. Seeing him, everyone started running here and there to save their lives. The thief stole everything they had and Morris and his family had to return to the village empty handed, having lost all their valuables that they had taken with them.

a) Why did Mike and his family decide to rest under the thief's tree?

b) Which of the following best describes Morris?

c) What did Mike mean when he said "He is watching all this from above"?

d) Write a suitable title to this passage.

e) How did the fellow villagers react to Mike getting rich overnight?

OR

7. Read the following passage and answer the questions given below: [10]

Until a hundred years ago as humans, we had a simple, uncomplicated biological connect. It was a straightforward equation: we drew roughly 3,000 calories each of energy out of the Earth for our food and life's sustenance. Today that number per capita has grown to 1,00,000 calories. We still need only 3,000 calories each to nourish life itself. All the rest of this energy is what we extract from the Earth for everything else besides keeping ourselves alive. In some countries, like the US; this per capita number runs at over 2,00,000 calories! Some of us are concerned about this.

We fret over what we could and should really be doing to soften this abuse of resources. Little things made us in the welter of things that we get to read. What is sustainable development? How can it be started in our homes? Beyond the ceremonial planting of green arid getting people to run marathons of various lengths in support of the environment, is there more that we can add to the abstract value of "sustainability"? What are the little things we can do in our day-to-day lives, to reduce demand for things that people make and market? Of course, we know that it helps to avoid a plastic bag when you can use a newspaper bag, or a brown bag, or even a jute bag which you can use for many more years, unlike a plastic bag which you throw away in less than a week or after a few uses.

However, there's actually quite a bit more than you and I can do without compromise on comfort, with very little as cost incurred, with financial savings that you can gain on energy and water use, and with solutions that are very feasible and within your reach. It is possible to understand our ecological footprint and its disastrous consequences, not merely in terms of our own behavior as consumers, but really in terms of the impact on the environment we make.

Questions:

- What is the primary concern of the passage?
 - Why does the author ask his audience to use a jute bag?
 - Which one of the following statements cannot be inferred from the passage?
 - Suggest a suitable title for the passage.
 - What is the meaning of the phrase "welter of things"?
8. Write an Essay on "The Impact of Cell Phones on the Present Generation of People". [10]

OR

9. Write an Essay on "The Importance of Values and Ethics in the Life of an Individual" [10]

- What are the factors responsible for Ms Zhou's success.
- Write a report on your Industrial Visit. [5+5]

OR

- Write a report on the infrastructural facilities of your college.
- Who is the world's richest self-made woman? How did she achieve it? [5+5]

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech I Year II Semester Examinations, August - 2019

MATHEMATICS-III

(Common to CE, EEE, ME, ECE, CSE, EIE, IT, MCT, ETM, MMT, AE, MIE, PTM, CEE, MSNT)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A**(25 Marks)**

- 1.a) For the density function $f(x) = 6x(1-x)$, $0 \leq x \leq 1$, find the mean. [2]
- b) If the mean of the binomial distribution is 4 and variance is 2 then find P . [3]
- c) State central limit theorem. [2]
- d) The variance of a population is 2. The size of the sample collected from the population is 169. Find the standard error of mean. [3]
- e) Define ANOVA. [2]
- f) Write about type-I error and type-II error. [3]
- g) Find two points between which the root of $x - \cos x = 0$ lies. [2]
- h) If $y = 2x + 5$ is the best fit for 6 pairs of values (x, y) by the method of least squares, find $\sum x_i$, if $\sum y_i = 120$. [3]
- i) Write the formula to evaluate $\int_a^b f(x) dx$ by Simpson's 1/3-rule. [2]
- j) Using Picard's method, find $y(x)$ for $\frac{dy}{dx} = x - y^2$, $y(0) = 1$ upto second approximation. [3]

PART-B**(50 Marks)**

- 2.a) From a lot of 10 items containing 3 defectives, a sample of 4 items is drawn at random. Let the random variable X denote the number of defective items in the sample. Find the probability distribution of X when the sample is drawn without replacement.
 - b) The mean and variance of a binomial distribution are 4 and $4/3$ respectively. Find $P(X \geq 1)$. [5+5]
- OR**
- 3.a) The probability density function $f(x)$ of a continuous random variable is $f(x) = \begin{cases} kx^3, & 0 < x < 1 \\ 0 & \text{otherwise} \end{cases}$. Find the value of k and the probability that the random variable takes on a value between $1/4$ and $3/4$.
 - b) In a sample of 1000 cases, the mean of a certain test is 14 and standard deviation is 2.5 assuming the distribution to be normal. Find how many students score between 12 and 15. [5+5]

- 4.a) Define t-distribution and write its properties.
 b) A random sample of 500 points on a heated plate resulted in an average temperature of 75.54 degrees Fahrenheit with a standard deviation of 2.79 degrees Fahrenheit. Find a 99% confidence interval for the average temperature of the plate. [5+5]

OR

- 5.a) Samples of size 2 are collected from a sample of size 5 without replacement.
 i) Write the samples of size 2 ii) Find the mean of sampling distribution of means.
 iii) The standard deviation of sampling distribution of means.
 b) What is the size of smallest sample required to estimate an unknown proportion to within a maximum error of 0.06 with atleast 95% confidence. [5+5]

- 6.a) A die was thrown 9000 times and of these 3220 yielded a 3 or 4. Is this consistent with the hypothesis that the die was unbiased.

- b) What is meant by level of significance, one tailed and two tailed tests? [5+5]

OR

7. The following table gives the number of refrigerators sold by 4 salesman of L.G India Ltd., in three months

Month	A	B	C	D
May	50	40	48	39
June	46	48	50	45
July	39	44	40	39

Is there a significant difference in the sales made by the four salesmen?

[10]

- 8.a) Using Netwon-Raphson method, find a positive real root of $xe^x - 2 = 0$ correct to four decimal places.

- b) Fit a least square parabola $y = a + bx + cx^2$ to the following data. [5+5]

x	-1	0	1	2
y	-2	1	2	4

OR

9. Solve the system of equations $8x + y + z = 8$, $2x + 4y + z = 4$, $x + 3y + 3z = 5$ by Gauss seidal method. [10]

10. Using Taylor's series method, find $y(0.1)$ and $y(0.2)$ for $\frac{dy}{dx} = x^2 - y$, $y(0) = 1$. [10]

OR

11. Using Runge-kutta method of order 4, find $y(2.5)$ for $\frac{dy}{dx} = \frac{x+y}{x}$, $y(2) = 2$ taking $h = 0.25$. [10]