**Text

Description automatically generated**

**PB1/APMAK/1222/A 28-NOV-2022**

|  |
| --- |
| **PRE-BOARD EXAMINATION-I (2022-2023)** |

|  |  |
| --- | --- |
| **SUBJECT: APPLIED MATH**  **GRADE: XII** | **Maximum Marks: 80****Time Allowed: 3 Hours** |

|  |  |
| --- | --- |
| **SECTION A**  **(Multiple Choice Questions) Each question carries 1 mark** | |
| **1.** | {……..-3,2,7,12,………} |
| **2.** |  |
| **3.** | 6 |
| **4.** | (- |
| **5.** | Define Central Limit Theorem. |
| **6.** |  |
| **7.** | Define statistic |
| **8.** | Find the order and degree of the following D.E    Order-2, degree-ND |
| **9.** | We want to test whether the mean GPA of students in American colleges is different from 2.0(out of 4.0). The null and alternative hypothesis are: |
| **10.** | (- |
| **11.** | 24 |
| **12.** | Decreasing in (-- and increasing in (-3/2, ) |
| **13.** | y=6 |
| **14.** | Mean np=2, variance npq=1 |
| **15.** | 6 |
| **16.** | 3/20 |
| **17.** | 12 |
| **18.** | 40 |
| **19.** | a |
| **20.** | *c* |
| **SECTION B**  **This section comprises of very short answer type-questions (VSA) of 2 marks each** | |
| **21.** |  |
| **22.** | **(i) the average cost=2x-4**  **(ii) the marginal cost when x = 10=36** |
| **23.** |  |
| **24.** | (30.34, 33.66) |
| **25.** |  |
|  | **SECTION C**  **(This section comprises of short answer type questions (SA) of 3 marks each)** |
| **26.** |  |
| **27.** |  |
| **28.** |  |
| **29.** | **OR** |
| **30.** |  |
| **31.** |  |
|  | **SECTION D**  **(This section comprises of long answer-type questions (LA) of 5 marks each)** |
| **32.** |  |
| **33.** | 1. Test statistic t=-1.54 2. range of p-value-0.10 and 0.20 3. At , using p-value do not reject 4. rejection rule using the critical value-Do not reject |
| **34.** |  |
| **35.** | Using the information given above, answer the following:  (a) Represent the above situation using matrix equation.  (b) Find out the prize amount for hockey, cricket & tennis |
|  | **SECTION E** |
| **36.** | Case study |
| **37.** | Case study 2  i)Find the market demand at equilibrium ()=6 units  ii)Find the price per unit at equilibrium (=Rs.20  iii)Find the consumer surplus= 144  **OR**  iii)Find the producer surplus=48 |
| **38.** | i) ii) iii) OR iii)1- |

\*\*\*