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**PB1/APMAK/1223/A 27-NOV-2023**

**PRE BOARD EXAMINATION – I (2023-2024)**

**ANSWER KEY**

|  |  |
| --- | --- |
| **SUBJECT: Applied Mathematics**  **GRADE: XII** | **Maximum Marks: 80****Time Allowed: 3 Hours** |

|  |  |
| --- | --- |
| **SECTION A**  **(Multiple Choice Questions) Each question carries 1 mark** | |
| **1.** | c |
| **2.** | d |
| **3.** | b |
| **4.** | c |
| **5.** |  |
| **6.** | (c) |
| **7.** | (b) |
| **8.** | a |
| **9.** | (c) |
| **10.** | b |
| **11.** | d |
| **12.** | a) |
| **13.** | a |
| **14.** | c |
| **15.** | b |
| **16.** | c |
| **17.** | d |
| **18.** | d |
| **19.** | iv) |
| **20.** | i) |
| **SECTION B**  **This section comprises of very short answer type-questions (VSA) of 2 marks each** | |
| **21.** |  |
| **22.** |  |
| **23.** | 1. i)Increasing in (- (ii) decreasing in (-2,-1)   **OR**  2) 2x-y+3=0 |
| **24.** | Ans.t= -2.3077 df=24  =1.711 so t<  Do not reject  The aerobics program was effective in lowering the heart rate. |
| **25.** |  |
|  | **SECTION C**  **(This section comprises of short answer type questions (SA) of 3 marks each)** |
| **26.** | Ans. -log|2-x| +1/2log(+C |
| **27.** | Astha and Roma went to the Big Bazaar. Astha purchased 2 pairs of jeans, 5 tops and 2 pairs of  Astha-1940Rs  Roma-2180Rs  Total=4120Rs. |
| **28.** | Maximise Z=10500x+900y subject to constraints, |
| **29.** |  |
| **30.** |  |
| **31.** |  |
|  | **SECTION D**  **(This section comprises of long answer-type questions (LA) of 5 marks each)** |
| **32.** |  |
| **33.** | **OR**   1. P(X<45) =0.0062 2. P (X>54) =0.0228 3. P (48 <X< 56kg)= 0.8399 |
| **34.** | LPP GRAPH |
| **35.** | x=1,y-2,z=3 |
|  | **SECTION E** |
| **36.** |  |
| **37.** | 1. A = 10 x- – 2. ,height of door=,radius= |
| **38.** |  |

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