CBSE | DEPARTMENT OF SKILL EDUCATION

APPLIED MATHEMATICS (840)

Marking Scheme for the Sample Question paper of Class XII
Session 2020-2021

Max. Time: 3 Hours **Max. Marks: 70**

General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of **25 questions** in two sections – Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. **Out of the given (7 + 18 =) 25 questions, a candidate has to answer (7 + 12 =) 19 questions in the allotted (maximum) time of 3 hours.**
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (35 MARKS):**
   - **i.** This section has 07 questions.
   - **ii.** There is no negative marking.
   - **iii.** Do as per the instructions given.
   - **iv.** Marks allotted are mentioned against each question/part.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (35 MARKS):**
   - **i.** This section contains 18 questions.
   - **ii.** A candidate has to do 12 questions.
   - **iii.** Do as per the instructions given.
   - **iv.** Marks allotted are mentioned against each question/part.

SECTION A: OBJECTIVE TYPE QUESTIONS

Q. 1	Answer any 5 out of the given 7 questions (1 x 5 = 5 marks)	
i.	(b) 4	1
ii.	(a) $a^x \log a$	1
iii.	(a) square	1
iv.	(c) $(26)_{10}$	1
v.	(b) Rs. 175	1
vi.	(c) Rs. 42,750	1
vii.	(d) 126	1

Q. 2	Answer any 5 out of the given 7 questions (1 x 5 = 5 marks)	
i.	(c) $\frac{1}{4}$	1
ii.	(d) $y = 3$	1
iii.	(b) non-negative	1
iv.	(c) percentage	1
v.	(c) $\frac{1}{2}$	1
vi.	(d) 4	1
vii.	(b) $\frac{y}{x(1-y)}$	1

Q. 3	Answer any 5 out of the given 7 questions (1 x 5 = 5 marks)	
i.	(a) 11	1
ii.	(a) $-\frac{1}{x} + C$	1
iii.	(d) 512	1
iv.	(c) $m = n$	1
v.	(b) $\begin{bmatrix} 4 & 4 \\ 0 & 4 \end{bmatrix}$	1
vi.	(b) 2×2	1
vii.	(b) 468	1

Q. 4	Answer any 5 out of the given 7 questions (1 x 5 = 5 marks)	
i.	(d) EJKNFTGP	1

ii.	(d) South-West	**1**
iii.	(c) Brass	**1**
iv.	(a) $4x + y + 5 = 0$	**1**
v.	(d) $\frac{x}{a} + \frac{y}{b} = 1$	**1**
vi.	(b) (2, 5)	**1**
vii.	(a) $(\sqrt{3}+1)x + (\sqrt{3}-1)y = 8\sqrt{2}$	**1**

Q. 5	**Answer any 5 out of the given 7 questions (1 x 5 = 5 marks)**	
i.	(c) $\frac{3}{8}$	**1**
ii.	(d) $P(A) = P(B)$	**1**
iii.	(d) $\frac{43}{64}$	**1**
iv.	(c) $\left(\frac{9}{10}\right)^5$	**1**
v.	(d) $q = 3p$	**1**
vi.	(b) A function to be optimized	**1**
vii.	(c) All are true	**1**

Q. 6	**Answer any 5 out of the given 7 questions (1 x 5 = 5 marks)**	
i.	(c) 0	**1**
ii.	(b) 230	**1**
iii.	(b) Rs. 3,000	**1**
iv.	(d) 100	**1**
v.	(c) Rs. 2,200	**1**
vi.	(b) 4	**1**
vii.	(d) 59 %	**1**

Q. 7	**Answer any 5 out of the given 7 questions (1 x 5 = 5 marks)**	
i.	(b) 1	**1**
ii.	(d) No value	**1**
iii.	(b) 125.0	**1**
iv.	(c) $63 - 77$	**1**

v.	(b) 50	**1**
vi.	(b) $2 \times n$	**1**
vii.	(c) 3584	**1**

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 6 out of the given 8 questions in (2 x 6 = 12 marks)

Q. 8	$x = 4$	**2**
Q. 9	Rs. 55,000	**2**
Q. 10	$P\left(\frac{E}{F}\right) = \frac{2}{5}$	**2**
Q. 11	Rs. 11,365.96	**2**
Q. 12	$(30,0)$ and $Z = 120$	**2**
Q. 13	153.33	**2**
Q. 14	122.32	**2**
Q. 15	$(100111)_2$	**2**
Q. 16	$x = 4$	**2**

Answer any 2 out of the given 4 questions (3 x 2 = 6 marks)

Q. 17	$P(A\ wins) = \frac{36}{91},\ P(B\ wins) = \frac{30}{91},\ P(C\ wins) = \frac{25}{91}$	**3**
Q. 18	11011.0011	**3**
Q. 19	66	**3**
Q. 20	$Z = 10.50$ at $x = 3, y = 3$	**3**

Answer any 2out of the given 5 questions (5 x 2 = 10 marks)

Q. 21	$1 - \frac{1}{x^2}$	**5**
Q. 22	$\begin{bmatrix} -1 & -1 & 3 \\ -1 & -3 & -10 \\ -5 & 4 & -6 \end{bmatrix}, X = \begin{bmatrix} 1 & 1 & 3 \\ 1 & 3 & 10 \\ 5 & -4 & 6 \end{bmatrix}$	**5**
Q. 23	(i) 53,200 (ii) 61,360 (iii) 630	**5**
Q. 24	$\frac{7}{15}$	**5**
Q. 25	Maximum profit = Rs. 1,36,000 at $x = 40, y = 160$	**5**