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Question Booklet No.	Question Booklet Series :

# AUAT — 2024 B. Sc. Honours in Mathematics/Statistics (U13) (TEST BASED ON MCQ)

Full Marks : 100	Duration : 2 Hours
Roll No. of the Candidate :	
Date of Examination :	
Name of Examination Centre :	Signature of the Invigilator on
Signature of the Candidate :	I Varification

#### IMPORTANT INSTRUCTIONS

Candidates should read the below instructions carefully and follow them accordingly.

- 1. The Question Booklet has paper seal pasted on it. Please do **NOT** open the Question Booklet until you are asked to do so by the Invigilator.
- 2. The candidates must check immediately after breaking the seal that the Question Booklet contains 100 Multiple Choice Questions in two parts (Part—I and Part—II).
- 3. Answer of questions of Part—I and Part—II both will have to be given on the **OMR Answer Sheet** provided for this purpose. Fill up the necessary fields that are intended for you by writing and/or shading appropriately. Otherwise the **OMR Answer Sheet** *cannot* be evaluated and will liable to be rejected. Question numbers progress from 1 to 100 continuously with alternative answers being shown as [A], [B], [C] and [D] for each question. Record your response by completely darkening the corresponding bubble. While responding, you should consider the best alternative answer and shade only one bubble with black/blue ball point pen only. For each correct response you will be awarded 1 mark. There will be negative marking for wrong responses. For each wrong response, -0·25 mark will be awarded. Multiple responses against one MCQ will be treated as a wrong response.
- **4.** On leaving the examination hall, candidates must submit the **OMR Answer Sheet**. They are allowed to keep the Question Booklet with them.
- 5. OMR Answer Sheet will be processed by electronic means. Any untoward/irrelevant remarks, folding or putting stray notes on the answer sheet, any damage to the answer sheet will lead to the rejection of the same and the sole liability shall remain with the candidate.
- **6.** Rough Work may be done at the end of the Question Booklet.
- 7. No candidate will be allowed to leave the examination hall before completion of the examination.
- 8. Use of any Electronic device like Mobile, Programmable Calculator etc. is strictly prohibited.

#### DO NOT OPEN THE SEAL UNTIL INSTRUCTED TO DO SO

## PART—I

## (Core Subject)

**1.** The number of subsets in a set consisting of five elements is

 $\tilde{S} \tilde{a} M[i_1 | I_1 \tilde{b} \tilde{a} f \tilde{a}] >^1 \& A_1[i_1 \tilde{e} \hat{\Gamma} 1 i_1^* 1 | I_1 \tilde{b} \tilde{a} \hat{\Gamma} 1 i_1^* - \&^1 \hat{\Gamma} \} J_1 \tilde{a} \tilde{O}^\circ$ 

- [A] 5
- [B] 10
- [C] 25
- [D] 32
- **2.** Let  $A = \{x : x \in \mathbb{N}\}$ ,  $B = \{2x : x \in \mathbb{N}\}$  and  $C = \{x : x \text{ is a prime number}\}$ . The number of elements of  $A \cap B \cap C$  is

 $A = \{x : x \in \mathbb{N}\}, B = \{2x : x \in \mathbb{N}\}$  &\mathbb{\mathbb{\mathbb{R}}}\]  $C = \{x : x \ \bar{\mathbb{O}}^\circ & & A_i[i_i \ \bar{\mathbb{E}}^3i[^\circ A_i \ \bar{\mathbb{I}}]_a\bar{\mathbb{I}}_a\bar{\mathbb{O}}^\circ,$   $A \cap B \cap C - & 1 \ \bar{\mathbb{E}}^3\bar{\mathbb{E}}^3 \sigma^2 \sigma^2 \bar{\mathbb{I}}_a\bar{\mathbb{I}}_a\bar{\mathbb{O}}^\mathbb{E}_a\\)$ 

- [A] finite (ÎÎã)
- [B] 0
- [C] 1
- [D] ∞
- **3.** Total number of relation on a set  $A = \{a, b\}$  is

 $A = \{a, b\} \ \tilde{e} \hat{l} i i_1^1 I_i \tilde{b}^1 \tilde{e}^3 i_i \hat{l} \tilde{s}^4 A_i \hat{b}[i_i^2]$ 

- [A] 4
- [B] 8
- [C] 16
- [D] 32
- **4.** Domain of the function  $f(x) = \frac{1}{\sqrt{|x|-x}}$

is

$$f(x) = \frac{1}{\sqrt{|x| - x}} \text{ "ìšûjAj[ij^1 Î]} \text{ jài "ej° òc}$$

- [A]
- [B] N
- [C]  $\mathbb{Z}^+$
- [D]  $\mathbb{Z}^-$

**5.** Range of the function  $f(x) = \sqrt{x+1} + \sqrt{1-x} \text{ is}$  $f(x) = \sqrt{x+1} + \sqrt{1-x} \text{ "} \grave{1} \grave{S} \hat{U}_{\hat{i}} \grave{1} \grave{A}_{\hat{i}} \overset{?}{I} \grave{S} \hat{I} \grave{a}^{\hat{i}} \overset{?}{I} \grave{O}^{\hat{O}}$ 

- [A] [-1, 1]
- [B] (-1, 1)
- [C]  $[\sqrt{2}, 2]$
- [D]  $(\sqrt{2}, 2)$
- - [A] 1 3x
  - [B] 1 + 3x
  - [C] 3x
  - [D] -3x
- 7. The angle subtended at the centre of a circle, by a chord whose length is equal to the radius of the circle will be &A¡[i¡ ¤ìv¡¹ ¤¸àÎ àì ⟨ γà> ífì 0¢¹ &A¡[i¡ \¸à ‡à¹à aìv;¹ ëA¡ì �ʃ " ¤[Ñ,t; ëA¡ào[i; Ò°
  - [A]  $\frac{\pi}{2}$
  - [B]  $\frac{\pi}{3}$
  - [C]  $\frac{\pi}{4}$
  - [D]  $\frac{\pi}{6}$
- **8.** The minimum value of  $\sec^2 \theta + \cos^2 \theta$  is

 $\sec^2\theta + \cos^2\theta - \&^1 \hat{\mathbf{I}} \approx >^3 \mathring{\mathbf{I}} \Rightarrow \hat{\mathbf{0}}^{\circ}$ 

- [A] 1
- [B] 2
- [C]
- [D] Undefined ("Î}`jàtj)

9. 
$$\begin{vmatrix} 1+a^2+b^2 & 2ab & -2b \\ 0 & 1-a^2+b^2 & 2a \\ b(1+a^2+b^2) & -2a & 1-a^2-b^2 \end{vmatrix} = ?$$

[A] 
$$(1+a^2+b^2)^3$$

[B] 
$$(1-a^2+b^2)^3$$

[C] 
$$(1+a^2-b^2)^3$$

[D] 
$$(1-a^2-b^2)^3$$

10.  $f(x) = \tan^{-1}(\sin x + \cos x)^3$  is an increasing function in

[A] 
$$\left(0, \frac{\pi}{2}\right)$$

[B] 
$$\left(0, \frac{\pi}{4}\right)$$

[C] 
$$\left(0, \frac{\pi}{6}\right)$$

[D] 
$$\left(0, \frac{\pi}{8}\right)$$

**11.** If 
$$A = \begin{pmatrix} -5 & 8 & 0 \\ 3 & 5 & 0 \\ 1 & 2 & -1 \end{pmatrix}$$
, then  $A^2$  is

$$\mathbf{M}[f, A = \begin{pmatrix} -5 & 8 & 0 \\ 3 & 5 & 0 \\ 1 & 2 & -1 \end{pmatrix}) \hat{\mathbf{0}}\hat{\mathbf{U}}, t_{i}\hat{\mathbf{a}}\hat{\mathbf{0}}\hat{\mathbf{1}}^{\circ} A^{2} \hat{\mathbf{0}}^{\circ}$$

- [A] idempotent  $\hat{I}^30$ **i**ti
- [B] nilpotent Å≽ֻQàtjã
- [C] involutory
- [D] periodic Š**™Ú**¤**v**į́

**12**. Which of the following relation is *true*?

[A] 
$$\sin \theta = \frac{7}{5}$$

[B] 
$$\cos \theta = \frac{7}{5}$$

[C] 
$$\tan \theta = \frac{7}{5}$$

[D] 
$$\sec \theta = \frac{5}{7}$$

**13.** If 
$$A = \begin{pmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 \end{pmatrix}$$
, then  $|A^t|$  (where

 $A^t$  denotes the transpose of A) is

$$\mathbf{M}[f, A = \begin{pmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 \end{pmatrix} \hat{\mathbf{U}}, \ \mathbf{t}_{i}\hat{\mathbf{a}}\hat{\mathbf{U}}\hat{\mathbf{I}}^{\circ} \ |A^{t}| - & \mathbf{1}$$

$$\mathbf{a}\hat{\mathbf{b}} > \hat{\mathbf{U}}^{\circ} \ (\hat{\mathbf{e}}^{\text{m}}\mathbf{J}\hat{\mathbf{a}}\hat{\mathbf{I}} > A^{t} \hat{\mathbf{U}}^{\circ} A - & \mathbf{1} \mathbf{i}\hat{\mathbf{a}}\hat{\mathbf{X}}\hat{\mathbf{I}}\hat{\mathbf{S}}\hat{\mathbf{a}}^{\bullet} \mathbf{I})$$

- [A] O
- [B] 1
- [C] 2
- [D] 3
- **14.** If *A* and *B* are symmetric matrices of same order then *AB BA* is

- [A] symmetric Štij 3
- [B] skew symmetric [ti™i šhtil³
- [C] idempotent γ0i(ti
- [D] invertible [¤Š¹ãt¡ì™ìK¸

**15.** The system of simultaneous linear equations

$$x + y + z = 0$$

$$x - y - z = 0$$

has

™Kš; γãA¡¹o‡ìÚ¹

$$x + y + z = 0$$

$$x - y - z = 0$$

 $[\hat{I}]\hat{D}_{i}\hat{I}^{31}$ 

- [A] no solution in  $\mathbb{R}^3$  $\mathbb{R}^3$ -&  $\hat{\mathbf{I}}^3$ k\(\delta\)>\(\text{\tilde{e}}\)\(\delta\)
- [B] a unique solution in  $\mathbb{R}^3$   $\mathbb{R}^3$  -& &A<sub>i</sub>[i<sub>i</sub> &A<sub>i</sub>A<sub>i</sub>  $\hat{\mathbf{I}}^3$ ixi> "àiá
- [C] infinitely many solution in  $\mathbb{R}^3$   $\mathbb{R}^3$ -& " $\hat{\mathbf{1}}$  $\hat{\mathbf{3}}$  $\hat{\mathbf{3}}$  $\hat{\mathbf{n}}$  $\hat{$
- [D] finite but more than 1 solution in  $\mathbb{R}^3$   $\mathbb{R}^3$  -& ÎÎã³ [A¡"Ĩ1-&¹ ë¤[Šγàkò> "àlá
- **16.** If  $\tan \theta + \sec \theta = e^X$ , then  $\cos \theta =$

 $^{\mathbb{M}}f$ ,  $\tan \theta + \sec \theta = e^{X}$  )0,  $t_{i}$   $^{\mathbb{M}}$   $\cos \theta = ?$ 

[A] 
$$\frac{e^{x} + e^{-x}}{2}$$

$$[B] \quad \frac{e^X - e^{-X}}{2}$$

[C] 
$$\frac{2}{e^x + e^{-x}}$$

[D] 
$$\frac{2}{e^X}$$

**17.** Every skew-symmetric matrix of odd order is

[¤ì\ði; yjù³¹ šòti,A; [t;™A; šþt;γ³¾(i;G[i; Ò°

- [A] singular [ÎUPà1
- [B] non-singular >>-[Îປີຄືສ້<sup>1</sup>
- [C] invertible [¤Š¹āt¡ì™aK]
- [D] skew-hermitian [t¡™A¡ Òà¹[³[i¡Úà>

**18.** Consider the  $2 \times 2$  matrix  $T = \begin{pmatrix} 0 & 1 \\ 0 & 0 \end{pmatrix}$ . Then det(T - xI) = 0 is a polynomial of degree

$$T = \begin{pmatrix} 0 & 1 \\ 0 & 0 \end{pmatrix} \hat{\mathbf{0}}^{\circ} & \&A_{\mathbf{i}}[\mathbf{i}_{\mathbf{i}} \ 2 \times 2 \ ^{3}] \hat{\mathbf{a}}[\mathbf{i}_{\mathbf{i}}, \ \mathbf{t}_{\mathbf{i}}] \hat{\mathbf{o}}]^{\circ}$$

$$\det(T - xI) = 0 \quad \text{max} \hat{\mathbf{s}} f[\mathbf{i}_{\mathbf{i}}]^{1} [\mathbf{I}_{\mathbf{i}} K \hat{\mathbf{a}}] \hat{\mathbf{o}}]^{n}$$

- [A] 1
- [B] 2
- [C] zero (Åè)
- [D] Undefined ("Î}`jàtj)
- **19.** Let A be a  $3 \times 3$  nonsingular matrix such that  $A^3 = A$ . Then, the determinant of A is

 $^{3}$ i> Ai¹,  $^{1}$ ,  $^{2}$  &Ai[ii]  $^{2}$  ×  $^{3}$  >>-[ΠUP๠ $^{3}$  á[ii]  $^{6}$  & $^{3}$  >  $^{6}$   $^{m}$ ,  $^{4}$  =  $^{6}$  Ai tià0i  $^{9}$  A-&¹ [>010Ai  $^{9}$   $^{9}$ 

- [A] 0
- [B] 1
- [C] 2
- [D] 4
- **20.** If a > 0, b > 0, c > 0 are p-th, q-th and r-th terms of a GP, then the value of

$$\begin{vmatrix} \log a^2 & (p-1) & 3 \\ \log b^4 & 2(q-1) & 6 \\ \log c^8 & 4(r-1) & 12 \end{vmatrix}$$

is

$$\begin{split} & & \text{Im}[f \& A_i[i_i \ P_i \hat{\mathbf{10}} \hat{\mathbf{i}} \hat{\mathbf{v}}_i^{-1} \ \check{\mathbf{s}} \hat{\mathbf{K}}[t_i^{-1} \ p\text{-}t_i^{-3}, \quad q\text{-}t_i^{-3} \ \&^{\mathtt{m}}] \\ & & r\text{-}t_i^{-3} \ \check{\mathbf{s}} f P_i[^{\circ} \ a > 0, \ b > 0, \ c > 0 \ \grave{\mathbf{0}} \hat{\mathbf{1}}^{\circ}, \end{split}$$

$$\begin{vmatrix} \log a^2 & (p-1) & 3 \\ \log b^4 & 2(q-1) & 6 \\ \log c^8 & 4(r-1) & 12 \end{vmatrix}$$

&<sup>1 3</sup>à> Ò°

- [A] 1
- [B] 0
- [C] -1
- [D] None of the above I<sub>i</sub>ššì <sup>11</sup> ëA<sub>i</sub>àì>à(i<sub>i</sub>)ū;>Ú

**21.** arg(x) (where x < 0); is

$$arg(x) - \&^{1} \stackrel{3}{\Rightarrow} 0^{\circ} (\ddot{e}^{m}J\dot{a}) > x < 0)$$

- [A] O
- [B]  $\frac{\pi}{2}$
- $[C] \quad \pi$
- [D]  $\frac{1}{2}$
- **22.** If  $(1+x)^n = a_0 + a_1x + a_2x^2 + .... + a_nx^n$

then  $(a_0 - a_2 + ....)^2 + (a_1 - a_3 + ....)^2$  is equal to

$$\mathbf{M}[f \ (1+x)^n = a_0 + a_1x + a_2x^2 + \dots + a_nx^n] \\
00, \ t_1 \mathbf{i}^n \ (a_0 - a_2 + \dots)^2 + (a_1 - a_3 + \dots)^2 & \mathbf{1} \\
\mathbf{a}_b \ 0^o$$

- [A]  $2^n$
- [B]  $3^n$
- [C]  $2^{n-1}$
- [D]  $3^{n-1}$
- 23. If x satisfies the equation  $(x^2 2x \cos \theta + 1) = 0$ , then the value of

$$x^n + \frac{1}{x^n}$$
 is

- [A]  $2^n \cos n\theta$
- [B]  $2^n \cos^n \theta$
- [C]  $2\cos n\theta$
- [D]  $2\cos^n\theta$
- **24.** If  $\omega$  is a cube root of unity, then

$$\omega + \omega \left( \frac{1}{2} + \frac{3}{8} + \frac{9}{32} + \frac{27}{128} + \dots \right)$$

 $\label{eq:force_def} {}^{\text{IM}}\![f \quad \omega \quad \& \text{A}_{\hat{l}} \text{-}\&^1 \quad \text{Q}{>}^3 \text{P} \quad \grave{\text{O}}\acute{\text{U}}, \quad t_{\hat{l}}\grave{\text{a}}\grave{\text{O}}\grave{\text{1}}^\circ$ 

 $\omega + \omega \left(\frac{1}{2} + \frac{3}{8} + \frac{9}{32} + \frac{27}{128} + \dots \right)$  0

- [A] -1
- [B] 0
- [C] i
- [D]  $i^{3}$

**25.** The coefficient of  $x^{20}$  in the expansion of  $(1 + x^2)^{40} \times (x^2 + 2 + x^{-2})^{-5}$  is  $(1 + x^2)^{40} \times (x^2 + 2 + x^{-2})^{-5} - \&^1$  [#Ñititi

 $(1+x^{2})^{1/2} \times (x^{2}+2+x^{2})^{1/2} - x^{20} - x^{20} = x^{20} - x^{20}$ 

- [A]  ${}^{30}C_5$
- [B]  $^{30}C_{10}$
- [C]  $^{30}C_{20}$
- [D]  $^{30}C_{25}$
- **26.** How many 3-digit even numbers can be made using the digits 1, 2, 3, 4, 6, 7, if no digit is repeated?

- [A] 3<sup>6</sup>
- [B] 30
- [C] 60
- [D] 6!
- 27. How many words, with or without meaning, each of 2 vowels and 3 consonants can be formed from the letters of the word DAUGHTER?

- [A] 30
- [B] 120
- [C] 360
- [D] 3600
- **28.** The value of  $\lim_{n\to\infty} \frac{1}{n} \left[ \left( \frac{1}{2^n} \right) + \left( \frac{1}{2} \right) \left( \frac{1}{2^{n-1}} \right) + \left( \frac{1}{3} \right) \left( \frac{1}{2^{n-2}} \right) + \dots + \left( \frac{1}{n} \right) \left( \frac{1}{2} \right) \right]$  is

- [A] O
- [B] 1
- [C]
- [D] Does not exist ("[Ñâðã>)

**29.** If 4 is a root of the equation  $x^2 + ax - 12 = 0$ , then the other root of the equation is

- [A] a 4
- [B] 2
- [C] 3
- [D] 3
- **30.** If the roots of the equation  $3x^2 5x + p = 0$  are equal then p = 0

- [A]  $\frac{25}{6}$
- [B]  $\frac{25}{12}$
- [C]  $\frac{-25}{6}$
- [D]  $\frac{-25}{12}$
- 31. If x-y=3 and  $x+y \ge 9$ , then the minimum value of x is

- [A] 2
- [B] 4
- [C] 5
- [D] 6
- **32.** Total number of terms in the expansion of  $(1 x x^2)^5$  is

 $(1-x-x^2)^5$  -&1 [¤Ñ $\phi$ tjìtj ë³àij Šìf1 Î}J,à Ò°

- [A] 9
- [B] 10
- [C] 11
- [D] 12

33. The values of m for which exactly one root of the equation  $x^2 - 2mx + m^2 - 1 = 0$  lies in the interval (-2, 4) is

- [A] (-3, -1)
- [B] (3, 5)
- [C] (-∞, ∞)
- [D]  $(-3, 5) \cup (3, 5)$
- **34.** The equation  $\sqrt{x+3-4\sqrt{x-1}} + \sqrt{x+15-8\sqrt{x-1}} = 2$  has  $\sqrt{x+3-4\sqrt{x-1}} + \sqrt{x+15-8\sqrt{x-1}} = 2$   $\hat{1}^3 \hat{A}_1^{-1} \hat{1}_0^{-1}$ 
  - [A] no real root

    ëA;àì>à ¤àѤ ¤ã\ ë>Òü
  - [B] at least one real root

    A¡3ŠìÛ¡ &A¡[i¡ ¤àѤ ¤ā\ "àìá
  - [C] exactly one real root &A¡[i¡³āy ¤āѤ ¤ā\ "àiá
  - [D] infinitely many real root
    "Îi³Î}J,A; ¤àѤ ¤ā\ "àiá
- **35.** The product of real roots of the equation  $|2x+3|^2 3|2x+3| + 2 = 0$ , is

 $|2x+3|^2 - 3|2x+3| + 2 = 0$   $\hat{i}^3 \hat{a} \hat{A}_i^{10} \hat{i}_i^{1} = \hat{a} \hat{N}_i^{2}$ =  $\hat{a} \hat{b}_i^{01} \hat{b}_i^{00} \hat{b}_i^{00}$ 

- [A] 5
- [B]  $\frac{5}{2}$
- [C] 2
- [D]  $\frac{2}{5}$

- **36.** If three complex numbers are in Arithmetic progression, then they lie on
  - $\begin{tabular}{ll} \hline \begin{tabular}{ll} \hline \end{tabular} & \begin{tabular}$
  - [A] a circle &A¡[i¡ ¤i̇̀V¡
  - [B] a straight line &A¡[i¡ ιºì¹JàÚ
  - [C] an ellipse &A¡[i¡ I¡Ĕ¤ÌV¡
- **37.** The circle  $(x-4)^2 + (y-3)^2 = 9$  touches the
  - [A] X-axis
  - [B] Y-axis
  - [C] Both the coordinate axes
  - [D] None of the coordinate axes

$$(x-4)^2 + (y-3)^2 = 9 \text{ w} \text{ i li } \tilde{\text{N}} \text{ s} \hat{\text{A}} (A_i^1) \text{ a}$$

- [A] X-"ÛjìAj
- [B] Y-"ÛjìAj
- [C] I¡P¡Ú ''Û¡ìA¡
- [D] ëAjàì>à '' ÛjìAjÒü>Ú
- **38.** If  $f(x) = \left(\frac{x}{1-|x|}\right)^{1/2024}$ , then Domain of

the function  $(D_f)$  is

$$\mathbf{T}[f \qquad f(x) = \left(\frac{x}{1 - |x|}\right)^{1/2024} \qquad \grave{0}\acute{\mathbf{U}}, \qquad t_{i}\grave{\mathbf{a}}\grave{\mathbf{0}}\grave{\mathbf{1}}^{\circ}$$

- [A]  $\mathbb{R} \{-1, 1\}$
- [B] (-∞, 1)
- [C]  $(-\infty, -1) \cup [0, 1)$
- [D] None of the above I¡išì¹¹ ëA¡àì>à[i¡Òü>Ú

**39.** 
$$f(x) = (\tan x^5)e^{(x^3 \operatorname{sgn} x^7)}$$
 is 
$$f(x) = (\tan x^5)e^{(x^3 \operatorname{sgn} x^7)} \ \hat{0}^{\circ}$$

- [A] an odd function &A¡[i¡[¤ì\ð]¡ "ìšÛ¡A¡
- [B] an even function &A¡[i¡ ë\âj; "ìšÛ¡A¡
- [C] neither even nor odd e\all;\* >à, [\mi\all;\* >à
- [D] None of the above I¡ššì¹¹ ëA¡àì>à(i¡Òū>Ú
- **40.** The period of  $f(x) = \left|\cos^5\left(\frac{x}{2}\right)\right|$  is  $f(x) = \left|\cos^5\left(\frac{x}{2}\right)\right| \&^1 \text{ S}^{\text{Maj}}\hat{J}\text{A}_{\text{i}}\hat{a}^{\text{O}} \hat{\mathbf{0}}^{\text{O}}$ 
  - [A]  $\pi$
  - [B]  $2\pi$
  - [C] 3π
  - [D]  $\frac{\pi}{2}$
- **41.** If  $f: \mathbb{R} \to \mathbb{R}$  be such that f(x) = x |x|, where [a] denotes the greatest integer less than or equal to a, then  $f^{-1}(x)$  is
  - [A]  $\frac{1}{x-|x|}$
  - [B] |x| x
  - [C] Not defined
  - [D] None of the above

$$\begin{split} & \stackrel{\text{\tiny IM}}{=} f : \mathbb{R} \to \mathbb{R} \quad \&^3 > \quad \mathring{e}^{\text{\tiny IM}} \quad f(x) = x - |x|, \\ & \mathring{e}^{\text{\tiny IM}} J \mathring{a} \mathring{a} > [a] \quad \mathring{e}^{\text{\tiny IA}} \mathring{a} \mathring{e}^{\text{\tiny IA}} \mathring{e$$

- [A]  $\frac{1}{x-|x|}$
- [B] |x| x
- [C] " $\hat{I}$  iàti
- [D]  $I_{i}\tilde{\mathbf{E}}\hat{\mathbf{i}}^{11}\tilde{\mathbf{e}}A_{i}\tilde{\mathbf{a}}\hat{\mathbf{i}}>\tilde{\mathbf{a}}[i_{i}\tilde{\mathbf{0}}\tilde{\mathbf{u}}>\hat{\mathbf{U}}]$

- 42.  $\lim_{x \to 0} \log_{\sin x} \sin 2x \text{ is}$ 
  - [A] 1
  - [B] *e*
  - [C]  $e^2$
  - [D]  $e^{3}$
- **43.** f + g may be a continuous function if f + g " $i \hat{S}\hat{U}_i A_i [i_i \hat{I}^n t_i \hat{O}_i t_i \hat{S}\hat{a}_i]^1$ ,  $\mathbf{M}_f$ 
  - [A] f is continuous and g is discontinuous  $f \hat{l}''t_i \&^{\mathbf{z}} g \text{ "} \hat{l}''t_i \text{ 00}$
  - [B] f is discontinuous and g is continuous f " $\hat{\mathbf{l}}$ " $\mathbf{t}_{\hat{\mathbf{l}}}$  & $\mathbf{z}$ } g  $\hat{\mathbf{l}}$ " $\mathbf{t}_{\hat{\mathbf{l}}}$   $\hat{\mathbf{v}}$  $\hat{\mathbf{v}}$
  - [C] f and g both are discontinuous  $f * g \text{ li} \hat{P}_i \hat{U} \hat{U} \hat{U} \hat{U} \hat{I} \text{ ''} \hat{t}_i \hat{U} \hat{U}$
  - [D] None of the above I jtšì 11 ëAjài > à(i j Òü>Ú
- **44.** Number of points where  $f(x) = \min\{|x-1|, |x+1| : x \in \mathbb{R}\}$  is not differentiable is
  - $f(x) = \min\{|x-1|, |x+1| : x \in \mathbb{R}\} \quad \&[i_i \in \mathbb{N}] \\ [x \notin P_i[\circ i_i : x \in \mathbb{R}] \\ [x \in P_i[\circ i_i : x \in$
  - [A] 1
  - [B] 2
  - [C] 3
  - [D] 4
- **45.** The coordinate of the focus of the parabola  $2x^2 = -5y$  is

$$2x^2 = -5y$$
 " $(\langle \tilde{\mathbf{x}}\tilde{\mathbf{v}}|\tilde{\mathbf{i}}|\tilde{\mathbf{i}}^1 \tilde{\mathbf{e}}\tilde{\mathbf{o}}|\tilde{\mathbf{a}}\tilde{\mathbf{i}}\tilde{\mathbf{i}}\tilde{\mathbf{i}}^1 \tilde{\mathbf{N}}\tilde{\mathbf{a}}\rangle \tilde{\mathbf{a}}\tilde{\mathbf{s}}|\tilde{\mathbf{o}}\rangle$ 

- [A]  $\left(\frac{-5}{8}, 0\right)$
- [B]  $\left(\frac{-5}{2}, 0\right)$
- [C]  $\left(0, \frac{-5}{8}\right)$
- [D]  $\left(0, \frac{-5}{2}\right)$

- **46.**  $\int_0^3 |x| dx =$ 
  - [A] 0
  - [B] 1
  - [C] 2
  - [D] 3
- **47.**  $\int_{1}^{e} \frac{1}{x(1+\log x)^{2}} dx = ?$ 
  - [A]  $\frac{1}{2}$
  - [B]  $\frac{1}{e}$
  - [C]  $\frac{2}{e}$
  - [D] 0
- **48.** The eccentricity of the hyperbola  $x^2 y^2 = a^2$  is

$$x^2 - y^2 = a^2 \check{\mathbf{S}}^1 \dot{\mathbf{a}} \tilde{\mathbf{w}}_i [i_1 \mathbf{I}_i \ddot{\mathbf{y}}] \hat{\mathbf{A}}_i \mathcal{G}_{t_i} \dot{\mathbf{a}} \dot{\mathbf{0}}^{\circ}$$

- [A] 2
- [B]  $\sqrt{2}$
- [C]  $\sqrt{a}$
- [D] a
- **49**. The equation of *xy* plane is

- [A] x = 0
- [B] y = 0
- [C] z = 0
- [D] x + y = 0
- **50.** Number of intersecting points of the conics  $4x^2 + 9y^2 = 1$  and  $4x^2 + y^2 = 4$  is

$$4x^2 + 9y^2 = 1 \& x + y^2 = 4 A_i > A_i$$

- [A] 0
- [B] 1
- [C] 2
- [D] 3

**51.** 
$$\lim_{x \to 0} (1 + 3x)^{\frac{x+2}{x}} =$$

- [A] *e*
- [B]  $e^2$
- [C]  $e^4$
- [D]  $e^6$
- **52.** If  $\frac{dx}{dy} = 0$ , then the tangent to the curve y = f(x) at the point (x, y) is

$$\mathbf{M} [f \quad \frac{dx}{dy} = 0 \quad \mathbf{\hat{0}} \mathbf{\hat{U}}, \quad \mathbf{t}_{|\mathbf{\hat{a}}} \mathbf{\hat{0}} \mathbf{\hat{1}}^{\circ} \quad (x, y) \quad [\mathbf{x} \mathbf{\hat{g}} \mathbf{\hat{a}} \mathbf{t}_{|\mathbf{\hat{i}}}]$$

$$y = f(x) \mathbf{x} \mathbf{\hat{j}} \mathbf{\hat{i}}^{1} \mathbf{\hat{J}} \mathbf{\hat{a}}^{1} \mathbf{\hat{N}} \mathbf{\hat{s}} \mathbf{\hat{A}} \mathbf{\hat{a}}_{|\mathbf{\hat{i}}}$$

- [A] parallel to x-axis  $x-\text{"`}\hat{l}\hat{U}_{j}^{1}\hat{l}^{3}\hat{a}^{n}\hat{l}^{3}\hat{o}^{O}\hat{0}\hat{l}^{n}$
- [B] parallel to y-axis  $y-"\hat{U}_{i}^{1}\hat{I}^{3}i''\hat{I}^{3}\hat{O}\hat{O}^{1}\hat{I}^{2}$
- [C] passing through origin  $\ddot{e}A_{i} \not \in K \dot{a}^{3} \dot{a} \, \dot{D} \dot{a}^{x}$
- [D] None of the above I¡ĭšì¹¹ ëA¡àì>á[i¡Òi⊳Ú
- **53.** If v is the variance and  $\sigma$  is the standard deviation then

 $^{\text{II}}[f \lor \check{S}A_{\dot{1}}^{1}0 \&^{\text{x}}] \circ \hat{I}^{3}A_{\dot{1}} \check{S}\grave{a}=A_{\dot{1}} \grave{O}\acute{U}, t_{\dot{1}}\grave{a}\grave{O}\grave{1}^{\circ}$ 

[A] 
$$V = \frac{1}{\sigma^2}$$

[B] 
$$V = \frac{1}{\sigma}$$

[C] 
$$V = \sigma^2$$

[D] 
$$v^2 = \sigma$$

**54.** Let *A* and *B* be two mutually exclusive events such that  $P(A) = \frac{3}{8}$  and  $P(B) = \frac{1}{3}$ , then  $P[(A \cup B)^c] =$ 

[A] 
$$\frac{17}{24}$$

[B] 
$$\frac{7}{24}$$

[C] 
$$\frac{13}{24}$$

[D] 
$$\frac{1}{24}$$

**55.** The area bounded by the two curves  $y^2 = x + 4$  and x + 2y = 4, is

$$y^2 = x + 4 \& x$$
  $x + 2y = 4 xy\hat{\mu}^1J\hat{a}^1\hat{b}^1\hat{a}^1\hat{a}$   $\hat{e}^{x}[\hat{t}_{i}t_{i}^{y}\hat{t}_{i}^{o}]\hat{e}^{0}\hat{b}^{o}$ 

- [A] 9
- [B] 18
- [C] 36
- [D] 72

56. The order of differential equation

$$\left(\frac{d^4y}{dx^4}\right)^3 - \frac{d^3y}{dx^3} = \sqrt{1 + \frac{dy}{dx}} \text{ is}$$

$$\left(\frac{d^4y}{dx^4}\right)^3 - \frac{d^3y}{dx^3} = \sqrt{1 + \frac{dy}{dx}} \text{ "A}_i^{\circ} \hat{1}^3 \hat{a}_i^{1} \hat{1}^{01}$$

$$y\hat{a}^3 \hat{0}^{\circ}$$

- [A] 3
- [B] 4
- [C] 6
- [D] 7

**57.** The integrating factor of the differential equation  $x \log x \frac{dy}{dx} + y = \frac{2}{x} \log x$  is

$$x \log x \frac{dy}{dx} + y = \frac{2}{x} \log x \quad \text{``} \text{``} \text{`A}_i\text{'`} \quad \widehat{\mathbf{I}}^3 \hat{\mathbf{A}}_i\text{'} \mathbf{1}0[\mathbf{i}_i\text{'}]$$
 
$$\hat{\mathbf{I}}_i\hat{\mathbf{A}}_i\hat{\mathbf{A}}_i\hat{\mathbf{A}}_i\hat{\mathbf{A}}_i^{-1}\hat{\mathbf{A}}_i\hat{\mathbf{A}}_i^{-1}\hat{\mathbf{A}}_i\hat{\mathbf{A}}_i^{-1}\hat{\mathbf{A}}_i\hat{\mathbf{A}}_i^{-1}\hat{\mathbf{A}}_i\hat{\mathbf{A}}_i^{-1}\hat{\mathbf{A}}_i\hat{\mathbf{$$

- [A]  $x^2$
- [B]  $\log x$
- [C]  $\frac{1}{x}$
- [D]  $\frac{1}{x^2}$
- **58.** The rate of change of the function y = f(x) w.r.t. x at the point x is  $x \left[ \frac{x}{1} + \frac{x^2}{1} \cdot \frac{$ 
  - [A] f'(x)
  - [B]  $\frac{f'(x)}{2}$
  - [C] 2f'(x)
  - [D]  $\frac{f'(x)}{f(x)}$
- **59**.  $(\overrightarrow{a} \times \overrightarrow{b}) \times (5\overrightarrow{a} + \overrightarrow{6b}) =$ 
  - [A] O
  - [B]  $a^2 + b^2$
  - [C]  $a^2 + 5b^2$
- **60.** Number of zeros at the end of the decimal representation of the number 100! is

100! Î}Jajij få[3A; 165-&1 ëÅiÈ ë3ai; Åè>,1 Î}Ja 0°

- [A] 20
- [B] 21
- [C] 23
- [D] 24

**61**. Number of diagonals in a convex *n*-gon is

&A¡[i¡ I¡w¡° ¤×®jì\1 A¡ìo¢ Î}J¸à Ò°

- [A] n(n-1)
- [B] n(n-3)
- [C]  $\frac{n(n-3)}{2}$
- [D]  $\frac{n(n+1)}{2}$
- **62.** If the position vector of the points P and Q are  $\overrightarrow{a}$  and  $\overrightarrow{b}$  respectively, then  $\overrightarrow{PQ}$  is

 $\begin{array}{ll} \text{Im}[f \ P \ [ \text{ref i}^* \ Q \ [ \text{ref i} \ \tilde{\mathbb{N}} ] \Rightarrow \tilde{\mathbb{N}}_{\hat{\mathbb{N}}} \Rightarrow \tilde{\mathbb{N}}_{\hat{\mathbb{N}}} \\ \stackrel{\rightarrow}{\mathbb{D}} \ \tilde{\mathbb{O}} \tilde{\mathbb{U}}, \ t_{\hat{\mathbb{N}}} \Rightarrow \tilde{\mathbb{O}} \hat{\mathbb{U}} \\ \end{array} \stackrel{\rightarrow}{\mathbb{D}} \begin{array}{ll} \tilde{\mathbb{N}} \tilde{\mathbb{N}} \Rightarrow \tilde{\mathbb{N}}_{\hat{\mathbb{N}}} \Rightarrow$ 

- [A]  $\overrightarrow{a} + \overrightarrow{b}$
- [B]  $\overrightarrow{a} \overrightarrow{b}$
- [C]  $\overrightarrow{b} \overrightarrow{a}$
- [D]  $\overrightarrow{a} \times \overrightarrow{b}$
- **63.** If  $|\overrightarrow{a}| = 4$ ,  $|\overrightarrow{b}| = 2\sqrt{3}$  and  $|\overrightarrow{a} \times \overrightarrow{b}| = 12$ , then the angle between the vectors  $\overrightarrow{a}$  and  $|\overrightarrow{b}|$  is

 $||f||\overrightarrow{a}| = 4, |\overrightarrow{b}| = 2\sqrt{3} \quad \&|a| \Rightarrow |\overrightarrow{a} \times \overrightarrow{b}| = 12 \quad \grave{0} \acute{U},$   $t_{|a} \grave{0}) \stackrel{\circ}{\circ} \overrightarrow{a} \stackrel{\circ}{\circ} ||c||^{1} \stackrel{\star}{\circ} \overrightarrow{b} \stackrel{\circ}{\circ} ||c||^{11} \stackrel{3}{\circ} ||c||^{2} = 12$ 

- [A]  $\frac{\pi}{3}$
- [B]  $\frac{\pi}{4}$
- [C]  $\frac{\pi}{6}$
- [D]  $\frac{\pi}{2}$

**64.** If a straight line in the yz-plane makes an angle  $\frac{\pi}{3}$  with the positive z-axis, then it's direction cosines are

yz  $t_i$ ì° &A<sub>i</sub>[i; ι°ì¹Jà ™[f <>àuA<sub>i</sub> z ''ìÛ¡¹ Îàì=  $\frac{\pi}{3}$  ëA<sub>i</sub>ào Kk<sub>i</sub>> A<sub>i</sub>ì¹,  $t_i$ àÒì°  $t_i$ ๠[fA<sub>i</sub> ëA<sub>i</sub>àÎ àÒ₺ Ò°

[A] 
$$0, \frac{1}{2}, \frac{\sqrt{3}}{2}$$

[B] 
$$0, \frac{\sqrt{3}}{2}, \frac{1}{2}$$

[C] 
$$\frac{\sqrt{3}}{2}$$
,  $\frac{1}{2}$ , 0

[D] 
$$\frac{1}{2}$$
,  $\frac{\sqrt{3}}{2}$ , 0

**65.** Angle between the planes x-y+2z=9 and 2x+y+z=7 is

x-y+2z=9 &  $^{\alpha}$ } 2x+y+z=7  $t_{i}^{\alpha}f_{i}^{\alpha}i_{i}^{1}$   $^{3}$ <  $^{\alpha}t_{i}^{\alpha}\tilde{c}e_{i}^{\alpha}\tilde{c}o$   $\tilde{O}^{\alpha}$ 

- [A] 60°
- [B] 45°
- [C] 90°
- [D] 30°
- **66.** A card is drawn at random from a well-shuffled pack of 52 cards. The probability of getting a heart or a diamond is

<sup>®</sup>jài°à<sup>®</sup>jài¤ &ì°ài³ì°à Aj¹à 52 [i¡ Ajàil¢¹ &Aj[i¡ Š,àìAji¡ ë=ìAj &Aj[i¡ Ajàl¢ ™ì=Zá®jài¤ ë>\*Úà Ò°jú &Aj[i¡ °à° šà> ¤à IjàÚ³"¡ šà\*Ú๠δà¤>à Ò°

- [A] 1
- [B]  $\frac{1}{2}$
- [C]  $\frac{3}{13}$
- [D]  $\frac{1}{26}$

**67.** If  $\overrightarrow{a}$  and  $\overrightarrow{b}$  are vectors with magnitude a and b respectively, then  $|\overrightarrow{a} \times \overrightarrow{b}|^2 =$ 

 $\mathbf{M}[f \overrightarrow{a} \ddot{\mathbf{e}}^{\mathbf{e}}] \dot{\mathbf{c}}_{1}^{1} * \overrightarrow{b} \ddot{\mathbf{e}}^{\mathbf{e}}] \dot{\mathbf{c}}_{1}^{11} \overset{3}{\text{aya}} \overset{\mathbf{m}}{=} \dot{\mathbf{ay}} \hat{\mathbf{p}}^{3} a * b$   $\dot{\mathbf{0}} \dot{\mathbf{0}}, \ \mathbf{t}_{1} \dot{\mathbf{a}} \dot{\mathbf{0}} \dot{\mathbf{1}}^{\circ} |\overrightarrow{a} \times \overrightarrow{b}|^{2} = ?$ 

- [A]  $a^2b^2 (\overrightarrow{a} \cdot \overrightarrow{b})^2$
- [B]  $ab \overrightarrow{a} \cdot \overrightarrow{b}$
- [C]  $a^2b^2 + (\overrightarrow{a} \cdot \overrightarrow{b})^2$
- [D]  $ab + \overrightarrow{a} \cdot \overrightarrow{b}$
- **68.** Area of a triangle formed by the vectors  $\overrightarrow{a}$ ,  $\overrightarrow{b}$  and  $\overrightarrow{c}$  is

 $\overrightarrow{a}$  ,  $\overrightarrow{b}$  \*  $\overrightarrow{c}$   $\overrightarrow{e}^{@}_{i}C_{i}i^{11}$  ‡ $\overrightarrow{a}^{1}\overrightarrow{a}$   $K[k_{i}t_{i}$   $[y^{@}_{i}i^{1}]^{1}$   $\overrightarrow{e}\hat{U}_{i}y\acute{o}_{i}$  $\overset{\circ}{0}$  $\overset{\circ}{0}$ 

- [A]  $\frac{1}{2}(\overrightarrow{a}-\overrightarrow{b})\cdot(\overrightarrow{a}-\overrightarrow{c})$
- [B]  $\frac{1}{2} |(\overrightarrow{a} \overrightarrow{b}) \cdot (\overrightarrow{a} \overrightarrow{c})|$
- [C]  $(\overrightarrow{a} \times \overrightarrow{b} \times \overrightarrow{c})$
- [D]  $\frac{1}{2}(\overrightarrow{a} \times \overrightarrow{b} \cdot \overrightarrow{c})$
- **69.** The number of solutions of the equation  $\tan 4x = \cos x$ ; for  $0 < x < \pi$ ; is

 $\tan 4x = \cos x \; ; \; 0 < x < \pi \; , \qquad \widehat{1}^3 \hat{a} A_j^1 \hat{1} 0^1$   $A_j t_j P_j [^{\circ} \widehat{1}^3 \hat{k} \hat{a} \rangle ^1 \hat{1} \hat{0} \hat{1} \hat{a} ?$ 

- [A] 1
- [B] 2
- [C] 5
- [D] 8
- 70. If  $f(x) = \log |x|$ ,  $x \neq 0$ , then  $f'(x) = Mf \qquad f(x) = \log |x|$ ,  $x \neq 0$  00,  $t_{i}$ 
  - $[A] \quad \frac{1}{|x|}$
  - [B]  $\frac{1}{x}$
  - [C]  $\frac{-1}{|x|}$
  - [D]  $\frac{-x}{x}$

### PART-II

## (Islamic History and Culture, General English & General Knowledge)

71. The third Caliph was

 $t_i t_i \tilde{a} \hat{J} J[\circ \acute{o}_i \grave{a}^1 > \grave{a}^3]$ 

- [A] Bilal ibn Rabah
- [B] Khalid ibn al-Walid
- [C] Uthman ibn Affan
- [D] Zayd ibn Haritha
- 72. Insha' allah means

Ò¤Aà" àAàO A;=à1 "=¢0°

- [A] Glory be to Allah
- [B] If Allah wills
- [C] Praise be to Allah
- [D] As per Allah's wills
- 73. According to Islam, after death

Òΰà3">Îà13tå1 Šì1

- [A] human beings will be resurrected
- [B] reward or punishment will be given
- [C] Both of the above
- [D] Nothing happens
- **74.** Sayings of Prophet Muhammad (PBUH) are called

>¤ã ³Òà´¶ (Ĩà-) &¹ ¤àoãĨ ³ÒìA; ¤°à ÒÚ

- [A] Nasihat
- [B] Sifat
- [C] Akhlaq
- [D] Hadith
- 75. The Holy Qur'an has \_\_\_\_ chapters.

š[¤y Aå¹ '' àì> \_\_\_\_ [i; '' < àÚ '' àì á;ú

- [A] 30
- [B] 99
- [C] 114
- [D] 786

**76.** The shape of Kaaba inside Masjid al-Haram is like a

- [A] Cube
- [B] Sphere
- [C] Cylinder
- [D] Cone
- 77. Prophet Muhammad (PBUH) was a

>¤ã ³ðà´¶ (Îà-) [áì°>

- [A] Translator
- [B] Merchant
- [C] Peasant
- [D] Mason
- **78.** Who among the following prophets was born miraculously?

 $[>]^3 I_{i} \hat{A} [Jt_{i}>^{\underline{a}} \hat{A}f^{1}]^3 ] < A_{i} \hat{a}^{1} \mathbf{A}_{i} ^{\underline{a}} ]^{1} \hat{A}_{i} \hat{A}_{i} ^{\underline{a}} \hat{A}_{i} ^{\underline{a}}$   $\hat{D}_{i} \hat{U} [\hat{a}^{0}]^2 \hat{A}_{i} \hat{A}_{i} ^{\underline{a}} \hat{A}_{i} \hat{A}_{i} ^{\underline{a}} \hat{A}_{i} \hat{A}_{i} ^{\underline{a}} \hat{A}_{i} \hat{A}_{i} ^{\underline{a}} \hat{A}_{i} \hat{A}$ 

- [A] Moses
- [B] Jesus
- [C] Yaqub
- [D] Yusuf
- **79.** At the beginning of any task, Muslims say

 $eA_{i}ai>aA_{i}ai^1 C_{i}^1$ pit $_{i}^3\hat{a}_{i}^{031}a^{i}$ 

- [A] bismillah
- [B] inshaallah
- [C] mashaallah
- [D] subhanallah
- **80.** The city of Madina was known in the past as

" t $_{|\hat{a}|}$ t $_{|\hat{a}|}$ 3 $_{|\hat{b}|}$ 5 $_{|\hat{a}|}$ 6 $_{|\hat{a}|}$ 7 $_{|\hat{a}|}$ 8 $_{|\hat{a}|}$ 8 $_{|\hat{a}|}$ 9 $_{|\hat{a}|}$ 8 $_{|\hat{a}|}$ 9 $_$ 

- [A] Taif
- [B] Tabuk
- [C] Yathrib
- [D] Dammam

- **81.** What did Allah (SWT) command the angels to do to Adam (AS)?
  - "àÀàÒ (ÎårÒà>à× \*Úà tịàÚà°à) "à $f^3$  ("à-)-&¹ Šþtị ëớiì¹Åt;àì $f^1$  A;à "àì $f^{Å}$  A;ì¹[áì°>?
  - [A] Test his patience
  - [B] Prostate
  - [C] Degrade
  - [D] Bring him food
- **82.** Where did Adam (AS) and Hawwa reside before coming to earth?

 $\S_{=a}^{a} t_{i} "a\hat{l} a^{1} "a\hat{l} K "af^{3} ("a-) * Òa*Úa ëA<sub>i</sub>a=aÚ =aA<sub>i</sub>it<sub>i</sub>>?$ 

- [A] Sahara
- [B] Jahannam
- [C] Madinah
- [D] Jannah
- **83.** As a young boy Prophet Muhammad (SAW) used to work as a

ëáàli ¤àºAi ¤ÚìÎ >¤ã ³Đà´¶f (Ĩà-) ëAià> Aià\ Ai¹ìti>?

- [A] Merchant
- [B] Scientist
- [C] Trader
- [D] Shepherd
- **84.** What is the relation of Aisha (RA) with Prophet Muhammad (SAW)?

- [A] Siblings
- [B] Husband and wife
- [C] Father and daughter
- [D] None of the above
- **85.** What is the meal to break the fast called?

ë¹à\à ®¡àR¡à¹ Jà¤à¹ìA¡ A¡ã ¤ì°?

- [A] Suhoor
- [B] Sadaqah
- [C] Tarawih
- [D] Iftar

**86.** During Ramadan, Muslims refrain from which of the following?

- [A] Sleeping
- [B] Speaking
- [C] Eating and drinking
- [D] Working out
- **87.** What is the meaning of "Allahu Akbar" in English?

Ò�ì¹[\ìt; '''àÀà× ''àA;¤¹'&¹ ''=¢A;ã?

- [A] Allah is the most praiseworthy
- [B] Allah is the most merciful
- [C] Allah is the greatest
- [D] None of the above
- **88.** What do we say when we hear the name of Prophet Muhammad?

>¤ā ³ðà´¶i
$$f^1$$
 >à³ Ç<sub>i</sub>>ì° ''à³¹à A¡ā ¤[°?

- [A] Salallahu Alayhi Wasallam
- [B] Sadaqallahul Azim
- [C] Radi Allah Anhu
- [D] None of the above
- **89.** What is the meaning of the term 'Dua' in Arabic?

- [A] Supplication
- [B] Charity
- [C] Prayer
- [D] Fasting
- **90.** How many times does the term 'Allahu Akbar' appear in the call to prayer (Adhan)?

''à™àì> A¡t¡¤à¹ '''àÀà× ''àA¡¤¹′ Ŧ[i¡ &ìÎìá?

- [A] 2
- [B] 4
- [C] 5
- [D] 6

- **91**. Identify the *correct* alternative :
  - [A] Misanthropist one who hates or distrusts mankind
  - [B] Misogynist one who hates men
  - [C] Atheist one who believes in the existence of God
  - [D] Philanthropist one who writes life story of another person
- **92.** She dealt with the problem of her client so \_\_\_\_\_, that even the judge was \_\_\_\_\_.

Fill in the blanks with the *correct* alternatives.

- [A] agreeably, satisfied
- [B] inspiringly, appreciating
- [C] diligently, happy
- [D] dexterously, impressed
- **93.** A \_\_\_\_\_ of arrows. Fill in the blank with the appropriate collective noun.
  - [A] quiver
  - [B] fleet
  - [C] swarm
  - [D] cluster
- **94.** Select the *correct* sentence from the given alternatives :
  - [A] The convict was hung this morning.
  - [B] These houses are for the poor to live.
  - [C] Neither of the books were interesting.
  - [D] What is the time by your watch?
- **95.** A collection of poems or other pieces of writing is called
  - [A] analogy
  - [B] anthology
  - [C] philology
  - [D] cryptology

**96.** LED stands for what?

LED 3àì > Ajã?

- [A] Light Emitting Device
- [B] Low Emitting Diode
- [C] Light Electronic Diode
- [D] Light Emitting Diode
- **97.** Computer is connected to Internet by which device?

 $A_i[\tilde{S}_i]_{i}^{i}$   $\tilde{e}A_i \approx 0$   $\tilde{e}A_$ 

- [A] Modem
- [B] Mouse
- [C] CPU
- [D] RAM
- **98.** Which is the smallest planet in our solar system?

''à³àìf¹ ëÎï¹∖Kìt¡¹ ΤìWìÚ ëáài¡ Kồ ëA¡à⊳[i¡?

- [A] The Earth
- [B] Mars
- [C] Mercury
- [D] Saturn
- 99. The first British Viceroy of India was

  ®à¹ìt;¹ Š⊯³ [¤ʎj;Å ®àÒĴ ¹Ú [áì°>

[A] Lord Curzon

- [B] Lord Irwin
- [C] Lord Canning
- [D] Lord Tom
- **100.** Which of the following is **not** a feature of the Indian Constitution?

 $\label{eq:continuity} [>]W^1 \stackrel{\text{\tiny e}}{=} A_i \stackrel{\text{\tiny a}}{=} [i_i \stackrel{\text{\tiny e}}{=} i^3 + i^2] \stackrel{\text{\tiny f}}{=} [i_i \stackrel{\text{\tiny e}}{=} i^3 + i^3] \stackrel{\text{\tiny f}}{=} [i_i \stackrel{\text{\tiny e}}{=} i^3] \stackrel{\text{\tiny e}}{=} [i_i \stackrel{\text{\tiny e}}{=} i^3] \stackrel{\text{\tiny e}}{=}$ 

- [A] Parliamentary form of Government
- [B] Independence of Judiciary
- [C] Presidential form of Government
- [D] Federal Government

## SPACE FOR ROUGH WORK

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