

## Mathematics General Science Test Medium Mode

| Sr | Questions   | Answers Choice   |
|----|---|--|
| 1  | If $c$ is a constant number and if $f$ is the function defined by the equation $f(x) = c$ for all values of $x$ , then $f$ is differentiable at every $x$ and $f'$ is defined by the equation $f'(x)$ | A. $f$<br>B. 1<br>C. $C$<br>D. 0   |
| 2  | If $\cos^{-1}p + \cos^{-1}q + \cos^{-1}r = \pi$ then $p^2 + q^2 + r^2 + 2pqr$ is equal to   | A. 3<br>B. 1<br>C. 2<br>D. -1  |
| 3  | Question Image  | A. $\frac{\pi}{4}$<br>B. $\frac{\pi}{6}$<br>C. $\frac{\pi}{3}$<br>D. 0                               |
| 4  | If $P = \{x/x = p/q \text{ where } p, q \in \mathbb{Z} \text{ and } q \neq 0\}$ , then $P$ is the set of  | A. Irrational numbers<br>B. Even numbers<br>C. Rational numbers<br>D. Whole numbers                  |
| 5  | A sequence having no last term is called  | A. arithmetic sequence<br>B. Geometric sequence<br>C. Finite sequence<br>D. Infinite sequence        |
| 6  | If $p$ and $q$ are two statements then their conjunction is denoted by  |  |
| 7  | Question Image  | A. $A^2 - 5A + 7I = 1$<br>B. $2A^2 - 3A + 7I = 0$<br>C. $A^2 - 5A + I = 0$<br>D. $A^2 - 5A + 7I = 0$ |
| 8  | Question Image  | A. 0<br>B. 1<br>C. -A<br>D. -1   |
| 9  | The multiplicative inverse of $x$ such that $x = 0$ is  | A. $-x$<br>B. does not exist<br>C. $1/x$<br>D. 0   |
| 10 | Question Image  | A. 12<br>B. 13<br>C. 14<br>D. 15   |
| 11 | If the graph of $f$ is entirely below the $x$ -axis, then the value of definite integral is   | A. = 0<br>B. $< 0$<br>C. $> 0$<br>D. None  |
| 12 | Question Image  | A. $A^t$<br>B. $A^{t^2}$<br>C. $-A$<br>D. A  |
| 13 | Question Image  |  |
| 14 | The $n$ th term of an A.P., is $12 - 4n$ . Its common difference is   | A. 8<br>B. 4<br>C. -4<br>D. 16   |
| 15 | Question Image  | A. $2x \cos x^2$<br>B. $-2x \cos x \sin x$<br>C. $2x \sin x^2$<br>D. $-\sin x^2$                     |
| 16 | If $2x + y + \lambda = 0$ is normal to parabola $y^2 = -8x$ , $\lambda =$ _____   | A. 12<br>B. 8<br>C. 24   |

D. -24

17

Question Image

- A. 0
- B. U
- C.  $u/2$
- D.  $\log u$

18

Question Image

- A.  $3 \times 1$
- B.  $1 \times 3$
- C.  $3 \times 3$
- D.  $1 \times 1$

19

$w^{-1} = \underline{\hspace{2cm}}$

- A. 0
- B. 1
- C. w
- D.  $w^{\sup>2\sup>}$

20

99th term of the series  $2 + 7 + 14 + 23 + 34 + \dots$  is

- A. 9998
- B. 9999
- C. 10000
- D. None of these