

Nimcet-2021-22 MCQ EuTe-s2t0i2o2nPaper

1. Inverse of the function  $f(x) = \log_2(x+1) + \log_2(x-1)$  is  
 a)  $\log_2(x+1)$   
 b)  $\log_2(x-1)$   
 c)  $\log_2(x^2-1)$   
 d)  $\log_2(x^2+1)$   
 Ans: b

2. The value of  $\sin^{-1}(\sin \frac{2\pi}{3})$  is  
 a)  $\frac{2\pi}{3}$   
 b)  $\frac{\pi}{3}$   
 c)  $\frac{4\pi}{3}$   
 d)  $\frac{5\pi}{3}$   
 Ans: b

3. The correct expression for  $\cos^2 x - \sin^2 x$  is  
 a)  $\cos 2x$   
 b)  $\sin 2x$   
 c)  $\cos x$   
 d)  $\sin x$   
 Ans: a

4. The value of  $\tan^{-1}(\tan \frac{3\pi}{4})$  is  
 a)  $\frac{3\pi}{4}$   
 b)  $\frac{\pi}{4}$   
 c)  $\frac{5\pi}{4}$   
 d)  $\frac{7\pi}{4}$   
 Ans: c

5. The value of  $\sin^{-1}(\frac{1}{\sqrt{2}})$  is  
 a)  $\frac{\pi}{4}$   
 b)  $\frac{3\pi}{4}$   
 c)  $\frac{5\pi}{4}$   
 d)  $\frac{7\pi}{4}$   
 Ans: a

6. The angle between the tangents to the circle  $x^2 + y^2 = 4$  at the points  $(\sqrt{2}, \sqrt{2})$  and  $(-\sqrt{2}, \sqrt{2})$  is  
 a)  $90^\circ$   
 b)  $45^\circ$   
 c)  $135^\circ$   
 d)  $180^\circ$   
 Ans: a

7. If the foci of the ellipse  $\frac{x^2}{16} + \frac{y^2}{9} = 1$  and the hyperbola  $\frac{x^2}{9} - \frac{y^2}{16} = 1$  coincide, then the value of  $a^2$  is  
 a) 25  
 b) 16  
 c) 9  
 d) 4  
 Ans: b

8. The value of  $\sin^{-1}(\frac{1}{\sqrt{2}})$  is  
 a)  $\frac{\pi}{4}$   
 b)  $\frac{3\pi}{4}$   
 c)  $\frac{5\pi}{4}$   
 d)  $\frac{7\pi}{4}$   
 Ans: a

9. If  $\sin^{-1}(\frac{1}{\sqrt{2}}) = \frac{\pi}{4}$ , then  $\cos^{-1}(\frac{1}{\sqrt{2}})$  is equal to  
 a)  $\frac{\pi}{4}$   
 b)  $\frac{3\pi}{4}$   
 c)  $\frac{5\pi}{4}$   
 d)  $\frac{7\pi}{4}$   
 Ans: b

10. The domain of the function  $f(x) = \sin^{-1}(\frac{x}{2})$  is  
 a)  $[-2, 2]$   
 b)  $[-1, 1]$   
 c)  $[-\frac{1}{2}, \frac{1}{2}]$   
 d)  $[-\frac{1}{\sqrt{2}}, \frac{1}{\sqrt{2}}]$   
 Ans: c

11. The value of  $\sin^{-1}(\sin \frac{3\pi}{4})$  is  
 a)  $\frac{3\pi}{4}$   
 b)  $\frac{\pi}{4}$   
 c)  $\frac{5\pi}{4}$   
 d)  $\frac{7\pi}{4}$   
 Ans: b

12. The value of  $\sin^{-1}(\frac{1}{\sqrt{2}})$  is  
 a)  $\frac{\pi}{4}$   
 b)  $\frac{3\pi}{4}$   
 c)  $\frac{5\pi}{4}$   
 d)  $\frac{7\pi}{4}$   
 Ans: a

13. If  $\sin^{-1}(\frac{1}{\sqrt{2}}) = \frac{\pi}{4}$ , then the value of  $\cos^{-1}(\frac{1}{\sqrt{2}})$  is  
 a)  $\frac{\pi}{4}$   
 b)  $\frac{3\pi}{4}$   
 c)  $\frac{5\pi}{4}$   
 d)  $\frac{7\pi}{4}$   
 Ans: b

14. The value of  $\sin^{-1}(\frac{1}{\sqrt{2}})$  is  
 a)  $\frac{\pi}{4}$   
 b)  $\frac{3\pi}{4}$   
 c)  $\frac{5\pi}{4}$   
 d)  $\frac{7\pi}{4}$   
 Ans: a

15. The function  $f(x) = \frac{1}{x^2}$  is continuous at  $x = 0$ .  
 A) Yes B) No C) Not sure D) None of these

16. Which term of the series  $\sqrt{W}, \sqrt{W}, \dots$  is  $\sqrt{W}$ ?  
 A) 1 B) 2 C) 3 D) 4

17. Let  $\sin^{-1} \frac{1}{2} = \alpha$  and  $\cos^{-1} \frac{1}{2} = \beta$ . Then  $\alpha + \beta$  is equal to  
 A)  $\frac{\pi}{2}$  B)  $\frac{\pi}{3}$  C)  $\frac{\pi}{4}$  D)  $\frac{\pi}{6}$

18. The first three moments of a distribution about 2 are 1, 16, -40 respectively. The mean and variance of the distribution are  
 A) 2, 16 B) 2, 40 C) 2, 10 D) 2, 20

19. A: 3256, 11y, bd 21, 1156  
 B: 3256, 11y, bd 21, 1156  
 C: 3256, 11y, bd 21, 1156  
 D: 3256, 11y, bd 21, 1156

20. The value of  $\cot^{-1} \frac{1}{\sqrt{3}} + \tan^{-1} \frac{1}{\sqrt{3}}$  is  
 A)  $\frac{\pi}{2}$  B)  $\frac{\pi}{3}$  C)  $\frac{\pi}{4}$  D)  $\frac{\pi}{6}$

21. If  $\sin^{-1} \frac{1}{2} = \alpha$  and  $\cos^{-1} \frac{1}{2} = \beta$ , then  $\alpha + \beta$  is  
 A)  $\frac{\pi}{2}$  B)  $\frac{\pi}{3}$  C)  $\frac{\pi}{4}$  D)  $\frac{\pi}{6}$

22. Which of the following is not true?  
 A)  $\lim_{x \rightarrow 0} \frac{1}{x} = \infty$   
 B)  $\lim_{x \rightarrow 0} \frac{1}{x^2} = \infty$   
 C)  $\lim_{x \rightarrow 0} \frac{1}{x^3} = \infty$   
 D)  $\lim_{x \rightarrow 0} \frac{1}{x^4} = \infty$

23. A function  $f(x)$  is continuous at  $x = a$  if  
 A)  $f(a)$  exists  
 B)  $\lim_{x \rightarrow a} f(x)$  exists  
 C)  $f(a) = \lim_{x \rightarrow a} f(x)$   
 D)  $f(x)$  is defined at  $x = a$

24. If  $\sum_{n=1}^{\infty} \frac{1}{n^2} = \frac{\pi^2}{6}$ , then  $\sum_{n=1}^{\infty} \frac{1}{n^4}$  is  
 A)  $\frac{\pi^4}{90}$  B)  $\frac{\pi^4}{15}$  C)  $\frac{\pi^4}{30}$  D)  $\frac{\pi^4}{45}$

25. If  $\lim_{x \rightarrow 0} \frac{1}{x} = \infty$  and  $\lim_{x \rightarrow 0} \frac{1}{x^2} = \infty$ , then  $\lim_{x \rightarrow 0} \frac{1}{x^3}$  is  
 A)  $\infty$  B)  $-\infty$  C)  $\frac{1}{\infty}$  D)  $\frac{1}{-\infty}$

26. A function  $f(x)$  is differentiable at  $x = a$  if  
 A)  $f(a)$  exists  
 B)  $\lim_{x \rightarrow a} f(x)$  exists  
 C)  $f'(a)$  exists  
 D)  $f(x)$  is defined at  $x = a$

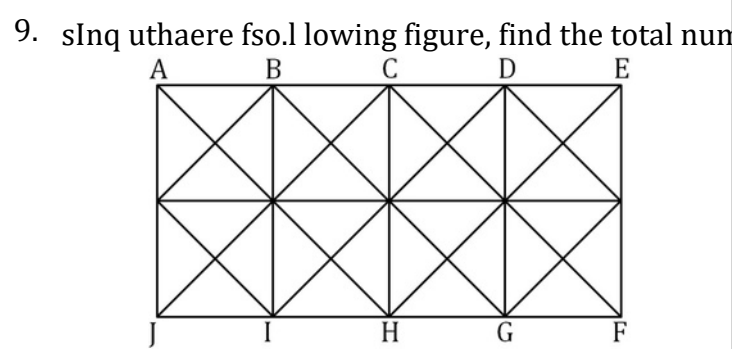
27. A function  $f(x)$  is continuous at  $x = a$  if  
 A)  $f(a)$  exists  
 B)  $\lim_{x \rightarrow a} f(x)$  exists  
 C)  $f(a) = \lim_{x \rightarrow a} f(x)$   
 D)  $f(x)$  is defined at  $x = a$

28. If  $\lim_{x \rightarrow 0} \frac{1}{x} = \infty$ , then  $\lim_{x \rightarrow 0} \frac{1}{x^2} =$   
 A)  $\infty$  B)  $-\infty$  C)  $\frac{1}{\infty}$  D)  $\frac{1}{-\infty}$

<p>29. I Ans: 2, 7, 9, 26, 49, 76, 105, 136, 171, 210, 253, 302, 357, 418, 485, 558, 637, 720, 809, 904, 1005, 1112, 1225, 1344, 1469, 1600, 1737, 1880, 1929, 2088, 2253, 2424, 2601, 2784, 2973, 3168, 3369, 3576, 3789, 4008, 4233, 4464, 4701, 4944, 5193, 5448, 5709, 5976, 6249, 6528, 6813, 7104, 7401, 7704, 8013, 8328, 8649, 8976, 9309, 9648, 9993, 10344, 10701, 11064, 11433, 11808, 12189, 12576, 12969, 13368, 13773, 14184, 14591, 15004, 15423, 15848, 16279, 16716, 17159, 17608, 18063, 18524, 18991, 19464, 19943, 20428, 20919, 21416, 21919, 22428, 22943, 23464, 23991, 24524, 25063, 25608, 26159, 26716, 27279, 27848, 28423, 29004, 29591, 30184, 30783, 31388, 31999, 32616, 33239, 33868, 34503, 35144, 35791, 36444, 37103, 37768, 38439, 39116, 39799, 40488, 41183, 41884, 42591, 43304, 44023, 44748, 45479, 46216, 46959, 47708, 48463, 49224, 49991, 50764, 51543, 52328, 53119, 53916, 54719, 55528, 56343, 57164, 57991, 58824, 59663, 60508, 61359, 62216, 63079, 63948, 64823, 65704, 66591, 67484, 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6007044, 6015421, 6023804, 6032193, 6040588, 6048989, 6057396, 6065809, 6074228, 6082649, 6091076, 6099509, 6107948, 6116393, 6124844, 6133299, 6141756, 6150219, 6158688, 6167161, 617564, 6184121, 6192604, 6201093, 6209588, 6218089, 6226596, 6235109, 6243628, 6</p>
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<p>43. If <math>\sin^{-1} \frac{1}{\sqrt{2}}</math> and <math>\cos^{-1} \frac{1}{\sqrt{2}}</math> are the solutions of the equation <math>\sin^{-1} x + \cos^{-1} x = \frac{\pi}{2}</math>, then the value of <math>\sin^{-1} \frac{1}{\sqrt{2}}</math> is</p> <p>a) <math>\frac{\pi}{4}</math>                      b) <math>\frac{\pi}{6}</math>  c) <math>\frac{\pi}{3}</math>                      d) <math>\frac{\pi}{2}</math></p> <p>Ans: a</p>	<p>50. The value of <math>\sin^{-1} \frac{1}{\sqrt{2}}</math> is</p> <p>a) <math>\frac{\pi}{4}</math>                      b) <math>\frac{\pi}{6}</math>  c) <math>\frac{\pi}{3}</math>                      d) <math>\frac{\pi}{2}</math></p> <p>Ans: a</p>
<p>44. If <math>\sin^{-1} x + \cos^{-1} x = \frac{\pi}{2}</math>, then <math>\sin^{-1} x</math> is</p> <p>a) <math>\frac{\pi}{4}</math>                      b) <math>\frac{\pi}{6}</math>  c) <math>\frac{\pi}{3}</math>                      d) <math>\frac{\pi}{2}</math></p> <p>Ans: a</p>	<p>1A. The value of <math>\sin^{-1} \frac{1}{\sqrt{2}}</math> is</p> <p>a) <math>\frac{\pi}{4}</math>                      b) <math>\frac{\pi}{6}</math>  c) <math>\frac{\pi}{3}</math>                      d) <math>\frac{\pi}{2}</math></p> <p>Ans: a</p>
<p>45. If <math>\cos^{-1} \frac{1}{2} + \sin^{-1} \frac{1}{2}</math>, then <math>\cos^{-1} \frac{1}{2}</math> is</p> <p>a) <math>\frac{\pi}{3}</math>                      b) <math>\frac{\pi}{4}</math>  c) <math>\frac{\pi}{6}</math>                      d) <math>\frac{\pi}{2}</math></p> <p>Ans: a</p>	<p>2. The value of <math>\sin^{-1} \frac{1}{2} + \cos^{-1} \frac{1}{2}</math> is</p> <p>a) <math>\frac{\pi}{3}</math>                      b) <math>\frac{\pi}{4}</math>  c) <math>\frac{\pi}{6}</math>                      d) <math>\frac{\pi}{2}</math></p> <p>Ans: a</p>
<p>46. The value of <math>\sin^{-1} \frac{1}{\sqrt{2}}</math> is</p> <p>a) <math>\frac{\pi}{4}</math>                      b) <math>\frac{\pi}{6}</math>  c) <math>\frac{\pi}{3}</math>                      d) <math>\frac{\pi}{2}</math></p> <p>Ans: a</p>	<p>3. The value of <math>\sin^{-1} \frac{1}{\sqrt{2}}</math> is</p> <p>a) <math>\frac{\pi}{4}</math>                      b) <math>\frac{\pi}{6}</math>  c) <math>\frac{\pi}{3}</math>                      d) <math>\frac{\pi}{2}</math></p> <p>Ans: a</p>
<p>47. The value of <math>\sin^{-1} \frac{1}{\sqrt{2}}</math> is</p> <p>a) <math>\frac{\pi}{4}</math>                      b) <math>\frac{\pi}{6}</math>  c) <math>\frac{\pi}{3}</math>                      d) <math>\frac{\pi}{2}</math></p> <p>Ans: a</p>	<p>4. The value of <math>\sin^{-1} \frac{1}{\sqrt{2}}</math> is</p> <p>a) <math>\frac{\pi}{4}</math>                      b) <math>\frac{\pi}{6}</math>  c) <math>\frac{\pi}{3}</math>                      d) <math>\frac{\pi}{2}</math></p> <p>Ans: a</p>
<p>48. The eccentricity of an ellipse, with its center at the origin is <math>\frac{1}{2}</math>. If one of the directrices is <math>y = 9</math>, then the equation of ellipse is:</p> <p>a) <math>\frac{x^2}{36} + \frac{y^2}{18} = 1</math>                      b) <math>\frac{x^2}{18} + \frac{y^2}{36} = 1</math>  c) <math>\frac{x^2}{9} + \frac{y^2}{18} = 1</math>                      d) <math>\frac{x^2}{18} + \frac{y^2}{9} = 1</math></p> <p>Ans: a</p>	<p>5. C</p> <p>The value of <math>\sin^{-1} \frac{1}{\sqrt{2}}</math> is</p> <p>a) <math>\frac{\pi}{4}</math>                      b) <math>\frac{\pi}{6}</math>  c) <math>\frac{\pi}{3}</math>                      d) <math>\frac{\pi}{2}</math></p> <p>Ans: a</p>
<p>49. The value of <math>\sin^{-1} \frac{1}{\sqrt{2}}</math> is</p> <p>a) <math>\frac{\pi}{4}</math>                      b) <math>\frac{\pi}{6}</math>  c) <math>\frac{\pi}{3}</math>                      d) <math>\frac{\pi}{2}</math></p> <p>Ans: a</p>	<p>7. The value of <math>\sin^{-1} \frac{1}{\sqrt{2}}</math> is</p> <p>a) <math>\frac{\pi}{4}</math>                      b) <math>\frac{\pi}{6}</math>  c) <math>\frac{\pi}{3}</math>                      d) <math>\frac{\pi}{2}</math></p> <p>Ans: a</p>

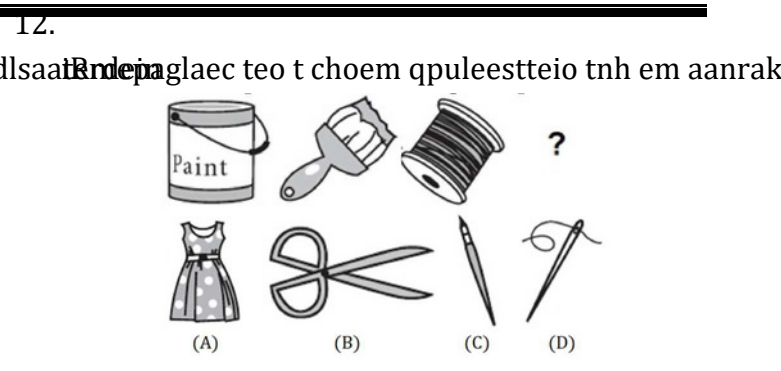
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 thee se n p a y h a t h e s o v o d s , i w t a h l i z c e h d a w r e o r r e d l s a a t h e m e p a  
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 a s o r  
 A d c n s : C d r i t i c h e s e : P A d i v l a s o o n c t a h t r e e o r p



A c n s 31:68b db 2240  
 10. Deepak, Rahul, Manoj, and Vinod are brothers.  
 Who is the heaviest?  
 I. Rahul is heavier than Deepak and Vinod,  
 but lighter than Manoj.  
 II. Deepak is lighter than Rahul and Manoj, but  
 heavier than Vinod.

ba S E i h t  
 S s t t a a t e e H a i s s e f f i s a l l f t i i s f c o f f c u f i f e n e i c t  
 I i a l l o l o t i , e , n b t u t  
 c D s t t a a t t m e n n n t  
 f f b i o t e t h a s e a n i s s t u t e s i f f i b o c i e u e n t g t t h e r a r e

11. W  
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 C D  
 A a n A D s : c db CB  
 c



a n s A D : a db CB  
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 13.  
 A l c : a E E P O L b C l a M n k , M : D  
 A K L , i n K B t h L e , b N , d P \_ M E \_ E Q \_ N  
 n s O N

14.  
 m e f b c h l a i e y t o m e y a t i s m o t s t n e a r l y s i m i l a r i n  
 s : a a c t n a d E t s t y r o p h e b d C O o p r u k l e r n c e  
 D  
 A c n C D

15.  
 A n s M L V E N B C H J B L a m i n g W a g e N N A O B C B J d T e A d i r  
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16.  
 M E S l a t t a l l a t e w o r d f r o m t h e g i v e n  
 L : L v I D I Q I D :: F E  
 A a n s I S T b R P E Z C U O S E : ? N H D E N S E  
 c : C O a E

17.  
 W h o i s m o r e l i k e t o r e s t a f f W i y a f f M o h s e a r n a s s i d  
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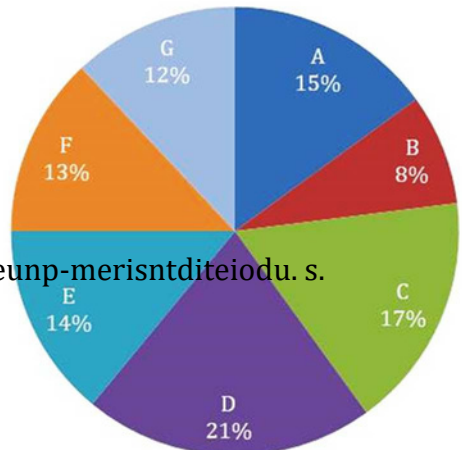
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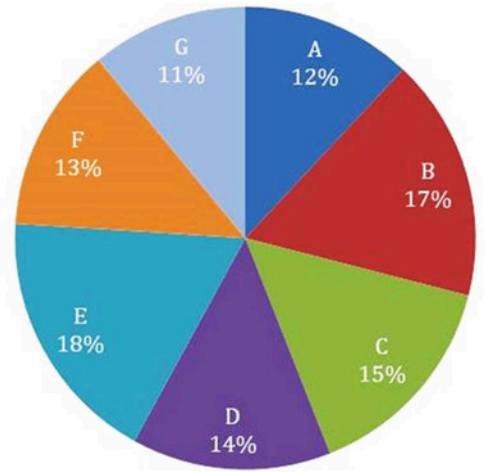
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Total number of students in Arts = 3800



Total number of students Commerce = 4200



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NIMCET-2022

<p>36. mRuz t n l e i g a n t s p i n p a d e 4 a s n o t e f a m b e 7 t e b i c h o u s t o p l f 6 0 n i p e r f a m u t i n g m ; &lt; t b r s B o o f o N l e A a n N D e x g p m r t o e d , h c e c o e w i h e a c h u m 8 a i t 7 8 i n m 0 0 s A c 0 0 0 h d b u 6 n s 1 1 : 8 c 0 0</p>	<p>2. c 2 1 A n ' s : b</p>
<p>37. A h e c h o b 7 h e n i n t h m e i n n e u e t d e s l e , s b e w t i w l l e c e o n i n 3 c i o d ' c e l o e a c k c a , a n d 9 A A ( a ) 5 <math>\frac{1}{11}</math> ( b ) 1 2 <math>\frac{4}{11}</math> ( c ) 1 3 <math>\frac{4}{11}</math> ( d ) 1 6 <math>\frac{4}{11}</math> A n d C s : c d b b a</p>	<p>3. W B o h 0 A A A e t A k D p e o A y s s i e q u i n a g e n t t o t h e A c n s A : i a A A A i A i i</p>
<p>38. 2 1 . A c t h e e d u c e t e r f o r a h e A n , t t h e e u d n a e u r g o r 3 . D E i i s s b r c l e h f o t e f r D o s ? B T 4 d b i f E C c n s B : a A</p>	<p>4. d l i s o i s t e t h a i o l m s e g e s t i v e t a n d i n W e b e f s u i h d e ' x m g d e a f o p o r w n r l y t 2 b e b c e c a p c o r d x t a 2 x l ' o g A n s a a : d ] a 2 1 2</p>
<p>39. h A e m o o t u s i l i e s f i t a g e . a W r f s s h , t w a h t a a l g o t i i h l f t h e b p e o r o f e n t h e s e a m t a r e g o e f f t h i p s e r s f t h a e g 0 e m o o ? o a c n s 6 4 d b 5 0 0 : 0 a A 1 e c 0 t 3 a t i v 7 e</p>	<p>5. I c f y a l p e r s o e e s s c n l o d c , d h 1 8 0 0 0 p e t t e t h o d i l i n c 1 2 5 p 0 r c a s : b 0 0 1 1 0 0 s s e e c b f t 0 h e a b s e o c v e c</p>
<p>40. T h e 2 g r e e l e s t i v n s e u s m r b e m e r a w i n h d i e c h 6 5 7 6 n a n d i d v 5 d i n g 1 d b 6 1 4 6 k k A 2 2 7 1 . T h a n s 1 : a 3 b d 2 3 3 0 5 5</p>	<p>6. A W r o s t s h i o e n s i m h 9 l f f m 9 b f t h e 9 B o o k l e 9 a n : « A c s : d 9 9 &lt; ' d A 9 9 &lt; &lt; &lt; n F m F e r r w r y f l e s b i t z h e e l a s t n o r y l o c a t i o n i n a c m k A n s 3 1 d b 6 1 4 6 k k : 2 b k A ' F</p>
<p>COMPUTE: AANWENDELINGEN SmmevnaEt lSue repre rnsigma isexndt m16u mbita 2n sented i nndd8 6352a7nds71 6rs3e83 a -01e34a bc 0 aa6 n s:- 3d2 768 a5n36d5 3 d 2767 A</p>	<p>7. m F e r r w r y f l e s b i t z h e e l a s t n o r y l o c a t i o n i n a c m k A n s 3 1 d b 6 1 4 6 k k : 2 b k A ' F</p> <p>8. r e p r e s e n t a t i o n ' i s u s e d t o A c n s R : c e t e a l N u m b e r s b d W B o h o o l e l e a n N u V m a l</p> <p>9. a n a f f e c t a b n y d a b p e r a f t B f B e o 9 s e l e a A n ' C v 9 u A c n s C A : d B n</p>

<p>10. If          a) N          b) S          c) R          d) O</p>	<p>10. If          a) N          b) S          c) R          d) O</p>
<p>1. W          a) N          b) S          c) R          d) O</p>	<p>1. W          a) N          b) S          c) R          d) O</p>
<p>2. B          a) N          b) S          c) R          d) O</p>	<p>2. B          a) N          b) S          c) R          d) O</p>
<p>3. F          a) N          b) S          c) R          d) O</p>	<p>3. F          a) N          b) S          c) R          d) O</p>
<p>4. A          a) N          b) S          c) R          d) O</p>	<p>4. A          a) N          b) S          c) R          d) O</p>
<p>5. K          a) N          b) S          c) R          d) O</p>	<p>5. K          a) N          b) S          c) R          d) O</p>
<p>6. T          a) N          b) S          c) R          d) O</p>	<p>6. T          a) N          b) S          c) R          d) O</p>

8. The following are the features of VR applications except

a. Vibration

b. Vibration

c. FenRv

d. Vexupt aerieA

Ans: e

9. 'Duck out of something' means

a. To hit something hard

b. To avoid doing something

c. To fall down

Ans: b

10. The following are the features of VR applications except

a. Vibration

b. Vibration

c. FenRv

d. Vexupt aerieA

Ans: e

11. The following are the features of VR applications except

a. Vibration

b. Vibration

c. FenRv

d. Vexupt aerieA

Ans: e

12. The following are the features of VR applications except

a. Vibration

b. Vibration

c. FenRv

d. Vexupt aerieA

Ans: e

13. The following are the features of VR applications except

a. Vibration

b. Vibration

c. FenRv

d. Vexupt aerieA

Ans: e

14. The following are the features of VR applications except

a. Vibration

b. Vibration

c. FenRv

d. Vexupt aerieA

Ans: e

15. The following are the features of VR applications except

a. Vibration

b. Vibration

c. FenRv

d. Vexupt aerieA

Ans: e

16. The following are the features of VR applications except

a. Vibration

b. Vibration

c. FenRv

d. Vexupt aerieA

Ans: e

17. The following are the features of VR applications except

a. Vibration

b. Vibration

c. FenRv

d. Vexupt aerieA

Ans: e

18. The following are the features of VR applications except

a. Vibration

b. Vibration

c. FenRv

d. Vexupt aerieA

Ans: e

19. The following are the features of VR applications except

a. Vibration

b. Vibration

c. FenRv

d. Vexupt aerieA

Ans: e

20. The following are the features of VR applications except

a. Vibration

b. Vibration

c. FenRv

d. Vexupt aerieA

Ans: e