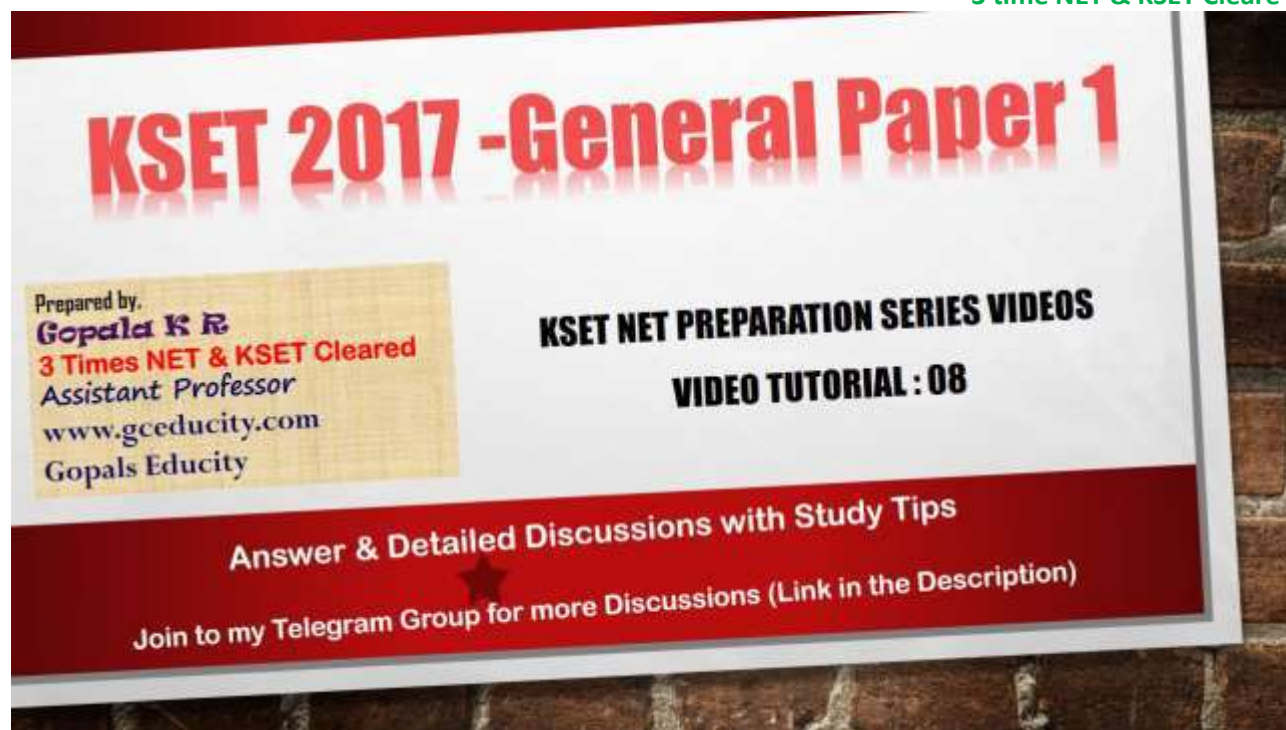


NTA-UGC JRF/NET/KSET

Paper 1: KSET 2017 General Paper 1 Solved

By
Gopala K R
Assistant Professor
3 time NET & KSET Clearer



KSET 2017 - GENERAL PAPER 1

Hexadecimal = Octal = Binary = Decimal

41. WHICH ONE OF THE FOLLOWING IS CORRECT ?

(A) $(16)^{10} = (18)^{16}$
(B) $(10)^{10} = (10)^8$
(C) $(20)^{10} = (10100)^2$
(D) $(20)^{10} = (10110)^2$

Ans: C

Decimal – 10 Digits – 0 to 9

Binary – 02 Digits – 0 & 1

Octal – 08 Digits – 0 to 7

Hexadecimal – 16 Digits – 0 to 9 & A to F

$0_{16} = 0_8 = 0_2 = 0_{10}$
$1_{16} = 1_8 = 1_2 = 1_{10}$
$2_{16} = 2_8 = 10_2 = 2_{10}$
$3_{16} = 3_8 = 11_2 = 3_{10}$
$4_{16} = 4_8 = 100_2 = 4_{10}$
$5_{16} = 5_8 = 101_2 = 5_{10}$
$6_{16} = 6_8 = 110_2 = 6_{10}$
$7_{16} = 7_8 = 111_2 = 7_{10}$
$8_{16} = 10_8 = 1000_2 = 8_{10}$
$9_{16} = 11_8 = 1001_2 = 9_{10}$
$A_{16} = 12_8 = 1010_2 = 10_{10}$
$B_{16} = 13_8 = 1011_2 = 11_{10}$
$C_{16} = 14_8 = 1100_2 = 12_{10}$
$D_{16} = 15_8 = 1101_2 = 13_{10}$
$E_{16} = 16_8 = 1110_2 = 14_{10}$
$F_{16} = 17_8 = 1111_2 = 15_{10}$
$10_{16} = 20_8 = 10000_2 = 16_{10}$
$11_{16} = 21_8 = 10001_2 = 17_{10}$
$12_{16} = 22_8 = 10010_2 = 18_{10}$
$13_{16} = 23_8 = 10011_2 = 19_{10}$
$14_{16} = 24_8 = 10100_2 = 20_{10}$
$15_{16} = 25_8 = 10101_2 = 21_{10}$
$16_{16} = 26_8 = 10110_2 = 22_{10}$

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42. FIREWALL MEANS

- (A) A SOFTWARE PROGRAM OR A PIECE OF HARDWARE BETWEEN COMPUTER AND INTERNET CONNECTION
- (B) A SOFTWARE PROGRAM BETWEEN PRINTER AND MEMORY CHIP
- (C) A DEVICE TO CREATE FIRE ON THE WALL
- (D) VIRUS

Ans: A

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49. IF 9 MEN AND 12 BOYS CAN DO A PIECE OF WORK IN 4 DAYS AND 4 MEN AND 16 BOYS CAN DO THE SAME PIECE OF WORK IN 6 DAYS, HOW LONG WILL 6 MEN AND 24 BOYS TAKE TO COMPLETE THE SAME WORK ?

- (A) 3 DAYS
- (B) 4 DAYS
- (C) 5 DAYS
- (D) 6 DAYS

$$9M + 12B \times 4 = 4M + 16B \times 6$$

$$36M + 48B = 24M + 96B$$

$$36M - 24M = 96B - 48B$$

$$12M = 48B$$

$$1M = 4B$$

$$\text{Total Work} = 36M + 48B$$

$$\text{Total Work} = (36M \times 4) + 48B$$

$$\text{Total Work B} = 144B + 48B = 192B$$

$$6M + 24B$$

$$24B + 24B = 48B$$

$$192B / 48B = 4 \text{ Days}$$

Ans: B

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50. FIND THE FIFTH TERM IN THE FOLLOWING SERIES : 2, 7, 27, 107, ?

- (A) 227
- (B) 327
- (C) 427
- (D) 527

$$2 + (5 \times 1^2) = 7$$

$$7 + (5 \times 2^2) = 27$$

$$27 + (5 \times 4^2) = 107$$

$$107 + (5 \times 8^2) = 427$$

2	7	27	107	427
	5	20	80	320
	*4	*4	*4	

Ans: C

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51. IN A CODE HOUSE IS WRITTEN AS INVRF, HOW IS CROWD WRITTEN IN THAT CODE ?

- (A) DQPVE
- (B) DQPVK
- (C) DQVPE
- (D) DQEPV

H	O	U	S	E
+1	-1	+1	-1	+1
I	N	V	R	F

C	R	O	W	D
+1	-1	+1	-1	+1
D	Q	P	V	E

Ans: A

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52. AT WHAT TIME BETWEEN 4 AND 5 O'CLOCK WILL THE HANDS OF A CLOCK BE IN OPPOSITE DIRECTIONS ?

- (A) 45 MINUTES PAST 4
- (B) 40 MINUTES PAST 4
- (C) 50 4/11 MINUTES PAST 4
- (D) 54 6/11 MINUTES PAST 4



4 o'clock, the hands of the watch are 20 min. spaces apart.
They must be 30 min. spaces apart.
Minute hand will have to gain 50 min. spaces.
55 min. spaces are gained in 60 min
50 min. spaces are gained in $60/55 \times 50$
min. or $54 \frac{6}{11}$

Required time = $54 \frac{6}{11}$ min. past 4.

Ans: D

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53. A, B AND C INVESTED IN A COMMON BUSINESS. A INVESTED RS. 5,000 FOR 2 MONTHS, B INVESTED RS. 6,000 FOR 3 MONTHS AND C INVESTED RS. 4,000 FOR 5 MONTHS. OUT OF A PROFIT OF RS. 960, 'A'S SHARE IS

- (A) RS. 360
- (B) RS. 200
- (C) RS. 400
- (D) RS. 500

$A = 5000 \times 2 = 10000$
 $B = 6000 \times 3 = 18000$
 $C = 4000 \times 5 = 20000$
Ratio = 10:18:20 = 5:9:10
 $960 \times 5/24$
=200

Ans: B

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54. THE SALARIES OF A, B, C ARE IN THE RATIO 2 : 3 : 5. IF THE INCREMENT OF 15%, 10% AND 20% ARE ALLOWED RESPECTIVELY IN THEIR SALARIES, THEN WHAT WILL BE THE NEW RATIO OF THEIR SALARIES ?

- (A) 3 : 3 : 10
- (B) 10 : 11 : 20
- (C) 23 : 33 : 60
- (D) 15 : 10 : 20

$$A:B:C = 2:3:5$$

$$NR = 2 + (2 \times 15/100) : 3 + (3 \times 10/100) : 5 + (5 \times 20/100)$$

$$NR = 2 + 0.30 : 3 + 0.30 : 5 + 1$$

$$NR = 2.3 : 3.3 : 6$$

$$NR = 23 : 33 : 60$$

Ans: C

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ANSWER QUESTIONS 55 – 60 BASED ON THE FOLLOWING INFORMATION:

GIVEN BELOW IS A TABLE SHOWING THE PERCENTAGE OF A TOTAL OF 800 STUDENTS WHO GAVE RANKING TO FIVE EXTRA CURRICULAR ACTIVITIES BASED ON THEIR PREFERENCE. RANK I IS THE HIGHEST.

NOTE : RANK I IS GIVEN 5 POINTS, RANK II IS GIVEN 4 POINTS, RANK III IS GIVEN 3 POINTS, RANK IV IS GIVEN 2 POINTS, RANK V IS GIVEN 1 POINT.

55. Which activity has received the highest number of points ?

- (A) Debating
- (B) Dancing
- (C) Poetry
- (D) Singing

Activity	Percentage of students who gave ranking				
	I	II	III	IV	V
Debating	14	24	22	23	17
Sports	18	15	25	20	22
Poetry	22	18	15	21	24
Dancing	26	19	18	17	20
Singing	20	24	20	19	17

Ans: B

$$\text{Debating} = (5 \times 14\%) + (4 \times 24\%) + (3 \times 22\%) + (2 \times 23\%) + (1 \times 17\%) = 0.7 + 0.96 + 0.66 + 0.46 + 0.17 = 2.95$$

$$\text{Sports} = (5 \times 18\%) + (4 \times 15\%) + (3 \times 25\%) + (2 \times 20\%) + (1 \times 22\%) = 0.9 + 0.6 + 0.75 + 0.4 + 0.22 = 2.87$$

$$\text{Poetry} = (5 \times 22\%) + (4 \times 18\%) + (3 \times 15\%) + (2 \times 21\%) + (1 \times 24\%) = 1.1 + 0.72 + 0.45 + 0.42 + 0.24 = 2.93$$

$$\text{Dancing} = (5 \times 26\%) + (4 \times 19\%) + (3 \times 18\%) + (2 \times 17\%) + (1 \times 20\%) = 1.3 + 0.76 + 0.54 + 0.34 + 0.2 = 3.14$$

$$\text{Singing} = (5 \times 20\%) + (4 \times 24\%) + (3 \times 20\%) + (2 \times 19\%) + (1 \times 17\%) = 1 + 0.96 + 0.6 + 0.38 + 0.17 = 3.11$$

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Activity	Percentage of students who gave ranking				
	I	II	III	IV	V
Debating	14	24	22	23	17
Sports	18	15	25	20	22
Poetry	22	18	15	21	24
Dancing	26	19	18	17	20
Singing	20	24	20	19	17

56. How many students gave rank IV to sports ?

- (A) 160
- (B) 320
- (C) 140
- (D) 280

$$800 \times 20 / 100 = 160$$

Ans: A

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	I	II	III	IV	V
Debating	14	24	22	23	17
Sports	18	15	25	20	22
Poetry	22	18	15	21	24
Dancing	26	19	18	17	20
Singing	20	24	20	19	17

57. Which extra curricular activity is considered the least important (i.e. the activity which received the least number of points) ?

- (A) Poetry
- (B) Singing
- (C) Sports
- (D) Dancing

$$\text{Debating} = (5 \times 14\%) + (4 \times 24\%) + (3 \times 22\%) + (2 \times 23\%) + (1 \times 17\%) = 0.7 + 0.96 + 0.66 + 0.46 + 0.17 = 2.95$$

$$\text{Sports} = (5 \times 18\%) + (4 \times 15\%) + (3 \times 25\%) + (2 \times 20\%) + (1 \times 22\%) = 0.9 + 0.6 + 0.75 + 0.4 + 0.22 = 2.87$$

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$$\text{Dancing} = (5 \times 26\%) + (4 \times 19\%) + (3 \times 18\%) + (2 \times 17\%) + (1 \times 20\%) = 1.3 + 0.76 + 0.54 + 0.34 + 0.2 = 3.14$$

$$\text{Singing} = (5 \times 20\%) + (4 \times 24\%) + (3 \times 20\%) + (2 \times 19\%) + (1 \times 17\%) = 1 + 0.96 + 0.6 + 0.38 + 0.17 = 3.11$$

Ans: C

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58. What is the ratio of the number of students who gave poetry a rank of I, II and IV to the number of students who gave debating a rank of III, V and I ?

- (A) 16 : 17
- (B) 3 : 7
- (C) 89 : 71
- (D) 61 : 53

Ans: D

Activity	Percentage of students who gave ranking				
	I	II	III	IV	V
Debating	14	24	22	23	17
Sports	18	15	25	20	22
Poetry	22	18	15	21	24
Dancing	26	19	18	17	20
Singing	20	24	20	19	17

$$22+18+21 : 14+22+17$$

$$61 : 53$$

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59. What is the difference between the number of students who gave rank II to debating plus dancing and the students who gave rank III to singing plus dancing

- (A) 40
- (B) 20
- (C) 30
- (D) 10

Ans: A

Activity	Percentage of students who gave ranking				
	I	II	III	IV	V
Debating	14	24	22	23	17
Sports	18	15	25	20	22
Poetry	22	18	15	21	24
Dancing	26	19	18	17	20
Singing	20	24	20	19	17

$$\begin{aligned} &\text{Debating II} + \text{Dancing II} - \text{Singing III} + \text{Dancing III} \\ &(800 \times 24/100) + (800 \times 19/100) - (800 \times 20/100) + (800 \times 18/100) \\ &192 + 152 - 160 + 144 \\ &344 - 304 = 40 \end{aligned}$$

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Sports	18	15	25	20	22
Poetry	22	18	15	21	24
Dancing	26	19	18	17	20
Singing	20	24	20	19	17

60. How many students gave rank I to dancing ?

- (A) 186
- (B) 208
- (C) 228
- (D) 238

$$800 \times 26 / 100 = 208$$

Ans: B

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