



ZIAUDDIN UNIVERSITY
EXAMINATION BOARD

RESOURCES FOR
“SSC-I GEN. MATHEMATIC”
ZUEB EXAMINATIONS 2021



PREFACE:

The ZUEB examination board acknowledges the serious problems encountered by the schools and colleges in smooth execution of the teaching and learning processes due to sudden and prolonged school closures during the covid-19 spread. The board also recognizes the health, psychological and financial issues encountered by students due to the spread of covid-19.

Considering all these problems and issues the ZUEB Board has developed these resources based on the condensed syllabus 2021 to facilitate students in learning the content through quality resource materials.

The schools and students could download these materials from www.zueb.pk to prepare their students for the high quality and standardized ZUEB examinations 2021.

The materials consist of examination syllabus with specific students learning outcomes per topic, Multiple Choice Questions (MCQs) to assess different thinking levels, Constructed Response Questions (CRQs) with possible answers, Extended Response Questions (ERQs) with possible answers and learning materials.

ACADEMIC UNIT ZUEB:

2. Constructed Response Questions (CRQs)

HOW TO ATTEMPT CRQs:

- Write the answer to each Constructed Response Question/ERQs in the space given below it.
- Use black pen/pencil to write the responses. Do not use glue or pin on the paper.

SECTION B (SHORT ANSWER QUESTIONS)

1. Solve $342_5 \times 43_5$

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

S.NO	CRQ	ANSWER	CL	DL
1.	Solve $342_5 \times 43_5$	32411_5	K/A	M
2.	If $S = \{\frac{1}{2}, -1, 0\}$, find $S \times S$	$S \times S = \left(\frac{1}{2}, \frac{1}{2}\right), \left(\frac{1}{2}, 1\right), \left(\frac{1}{2}, 0\right),$ $\left(-1, \frac{1}{2}\right), (-1, 1), (-1, 0), \left(0, \frac{1}{2}\right)$ $(0, -1), (0, 0)\}$	K/A	E
3.	If $\log_{10} 2 = 0.3010, \log_{10} 3 = 0.4771, \log_{10} 5 = 0.6990$ then find the value of $\log_{10} 30$	0.6532	K/A	E
4.	400 persons had a food stock for 6 days .How many persons should leave so that the same food is sufficient for 8 days?	1000 men	K/A	M
5.	A person paid Rs. 5650 as Zakat in a year. Find his savings for the year?	Rs.2260	K/A	M
6.	Solve the following: $1101_2 + 101_2 - 1001_2$	1001	K/A	M

7.	The members of the cricket team of a school made 18, 12, 0, 25, 20, 15, 11, 10, 25, 12, 7 runs respectively. Find the median of their runs.	12	K/A	E
8.	Three men have a total amount of Rs. 630. If each of them gives Rs. 10 in charity then the ratio between their amount will be 3:4:5. Find the amount of each man?	Rs.150, Rs.200, Rs.250.	K/A	E
9.	Find $A \times B$ if $A = \{0, 1\}$ and $B = \{1, 2, 3\}$	$A \times B$ = $\{(0, 1), (0, 2), (0, 3), (1, 1), (1, 2), (1, 3)\}$	K/A	M
10.	Convert the following numbers into those of Decimal System: (i) 201_5 (ii) 10203_5	(i) 51 (ii) 678	K/A	M
11.	Convert the following numbers into those of Base-Two: (i) 5 (ii) 63	(i) 101_2 (ii) 111111_2	K/A	M
12.	Convert the numbers used in the following expressions into those of Base-five and solve $21 + 34 - 108 + 62$	14_5	K/A	E
13.	Solve: $11101_2 \times 110_2 \times 1010_2 \times 111_2$	11110100_2	K/A	E
14.	Simplify: $1110_2 \times 101_2 + 101_2 \times 10_2 - 110_1 \times 1010_2$	10100_2	K/A	M
15.	Check yourself and find that which of the properties of R do the sets Q, Z, W and N possess?		K/A	M
16.	What is the ordinate of the points lying on the x-axis?	$y = 0$	K/A	M
17.	What is the abscissa of the points lying on the y-Axis?	$x = 0$	K/A	E
18.	Simplify and find the answers in positive exponents: (i) $\sqrt[3]{8x^4y^{-5}z^{-6}}$ (ii) $(ab)^3(a^2b^{-4})$	(i) $\frac{2x^4}{y^5z^6}$ (ii) $\frac{a^5}{b}$	K/A	E
19.	Represent the given logarithms in the form of sum or difference of logarithms: (i) $\log_a xy$ (ii) $\log_a \frac{x}{y}$	(i) $\log_a x + \log_a y$ (ii) $\frac{\log_a x}{\log_a y}$	K/A	M
20.	The students with the following roll numbers were present in a class when the roll call was taken: 1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 16, 17, 18, 20, 21, 23, 25, 26, 28, 29, 30, 34, 36, 38, 39, 43, 44, 46, 48, 50, 52, 57, 58, 60. Prepare a frequency distribution table with groups of tens, in which group the presence was the best?	3: 4	K/A	M

21.	Find $\sum f$, x , $\sum fx$, D and $\sum fxD$ in the form <table><tr><th>Marks Obtained</th><th>No. of Students</th></tr><tr><td>1 to 5</td><td>10</td></tr><tr><td>6 to 10</td><td>12</td></tr><tr><td>11 to 15</td><td>14</td></tr><tr><td>16 to 20</td><td>16</td></tr></table> of a table from the given grouped data (x stands for central value, D for deviation and f for frequency).	Marks Obtained	No. of Students	1 to 5	10	6 to 10	12	11 to 15	14	16 to 20	16	$\sum f = 52$ $x = 3, 8, 13, 18$ $\sum fx = 596$ $D = -15, -10, -5, 0$ Where provisional mean is 18 $\sum fxD = -340$	K/A	M
Marks Obtained	No. of Students													
1 to 5	10													
6 to 10	12													
11 to 15	14													
16 to 20	16													
22.	Find the median in of the following: (i) 2, 5, 1, 4, 3. (ii) 2, 1, 6, 5, 3, 4. (iii) 21, 32, 48, 47, 48, 23, 10. (iv) 3, 2, 1, 0, -1, -2, -3.	(i) 3 (ii) 3.5 (iii) 32 (iv) 0	K/A	E										
23.	8 persons work in a general store whose monthly wages (in rupees) are 300, 250, 275, 300, 300, 250, 300, 340. Find the mode of their wages.	300	K/A	E										
24.	The distance between Lahore and Rawalpindi is 290kilometres. A train runs 48 kilometers per hour. What time would it take to cover this distance?	6 hrs, 2 mins, 30 sec	K/A	M										
25.	400 Persons had a food stock for 6 days. How many persons should leave so that the same food is sufficient for 8 days?	1000 men	K/A	M										
26.	1200 Persons had food for 40 days. How many persons should leave so that the same food is sufficient for 48 days when the amount of ration per person becomes $1\frac{1}{4}$ times of the earlier?	400 men	K/A	M										
27.	Three fishermen fished 690. If the ratio between their fishes is $\frac{2}{3}$, $\frac{4}{5}$ and $\frac{5}{6}$, how many fishes did each of them fish?	200, 240, 250 fish	K/A	E										
28.	A, B and C invested 3000 rupees 3250 rupees and 3500 in a joint business. After a year they gained a profit of 7240 rupees. Find the share of each one if A got 1000 rupees out of profit money for acting as manager.	A: Rs.1920 B: Rs.2080 C: Rs.2240	K/A	E										
29.	Income of a person is 750 rupees and expenditure is 630 rupees per month. Find his percent saving.	16%	K/A	M										
30.	A person bought some apple. 20% were rotten and the remaining were 120 apples. Find the total number of apples.	150	K/A	M										
31.	Annual income of a person from salary is 39145 rupees and the annual income from other sources is 6455 rupees. Find his income tax for the year when he has paid Rs.300 to Zakat fund and Rs.200 to wealth tax.	Rs.60	K/A	M										
32.	A person brought some goods worth Rs.4500 from outside Pakistan. He paid 25% as custom duty. He sold	Rs.6750	K/A	E										

	those goods to a shopkeeper at 20% profit. Find the shopkeeper's buying price.			
33.	Samad placed an order for 50 books. The written price of every book is Rs.3.20 and 20% discount is allowed. Find the discount and the reduced price of the books.	Rs.32, Rs.128	K/A	E
34.	A factory owner fixed the following rated of commission: 15% commission on goods, the worth of which is upto 15,000 rupees; 20% on goods, the worth of which is more than 15,000 rupees. An agent bought goods Rs.26,500. Find his commission.	Rs.4550	K/A	M