ZIAUDDIN UNIVERSITY
EXAMINATION BOARD

RESOURCES FOR

"SSC-IIMATHEMATICS"

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:

1. **Extended Response Questions (ERQs)**

HOW TO ATTEMPT ERQs:

- 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 C (LONG ANSWER QUESTIONS)

1. **Provethat the sum of themeasures of the anglesof atriangle is180?**

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S.NO	ERQ	ANSWER	CL	DL
1.	Prove that the sum of the measures of the angles of a triangle is180	Proof	K/A	E
2.	FactorizeanyFOURofthefollowing: i. x^4+x^2+1 ii. $12x^2-17xy+6y^2$ iii. $y^4+2y^3z-2yz^3-z^4$ iv. x^3-x^2+2 v. a^6-b^6 vi. $64y^6+\frac{64}{y^6}-8y^9+96y^3$	Factor	K/A	M
3.	If two lines intersect each other, then vertically opposite angles are congruent. Prove it	Proof	K/A	M
4.	Draw a triangle ABC such that mAB=4. 5cm, mBC=5cm and $m\angle B$=60^o.Write also the steps of construction.	Diagram	K/A	E
5.	FactorizeanyTWOofthefollowing: a) x^4+x^2+1 b) $12x^2-17xy+6y^2$ c) $x^3-8y^3+1+6xy$ d) x^3-x^2+2	Factor	K/A	M
6.	Provethat the sum of the measures of the angles of atriangle is180'	Proof	K/A	M
7.	Ifatransversalintersectstwocoplanarlinessuchthatthepairofalternateanglesarecongruent,thenthelines areparallel		K/A	M
8.	The set A= {1,2,3,4} has the following relations in it. Find whether these are functions or not. If they are function, find their types. R_1={(1,2), (2,3), (3,4), (4,1)}, R_2={(1,2), (3,4), (4,1)}, R_3={(1,1), (1,2), (1,3), (1,4)}, R_4={(2,1), (4,4), (3,1), (2,3)},	R_1 is one-one onto function and R_2, R_3 and R_4 are not function.	K/A	D
9.	Simplify: $\frac{(6a+b)^6(3c+d)^5(5e-f)^2}{(6a+b)^4(3c+d)^2(5e-f)}$	$(6a+b)^2(3c+d)^3(5e+f)$	K/A	M
10.	Find the values of the following by using logarithms: vii. $\frac{(780.6)^{\frac{1}{2}}\times\sqrt{3.000}}{4.000}$	24.19	K/A	M
11.	For what value of k, the expression $2a^4+3a^3-4a^2+14a+k$ is exactly divisible bya^2-2a+3?	11	K/A	E
12.	Show that $x^3+y^3+z^3-3xyz$,can be written as: $\frac{1}{2}$(x+y+z){(x-y)^2+(y-z)^2+(z-x)^2}	PROOF	K/A	E
13.	Solve if possible, by using matrices and Cramer's rule. x+2y=6 2x+7y=3	{(12, -3)}	K/A	M
14.	Prove that the diagonals of a rectangle are congruent.	Proof	K/A	E