



ALLAMA IQBAL OPEN UNIVERSITY
Semester Terminal Exam Autumn 2020

Program /level:	B.Ed	Maximum Marks	100
Title /Course Code	Mathematics-IV (6449)	Pass marks	50

Instructions for Exams:

1. Attempt All Questions.
2. Write answers in your own words and avoid copying from an internet source or any book.
3. Be precise, avoid unnecessary details, answer to each question must be between 600-800 words.
4. Students are advised to upload their answer sheets/solutions on LMS portal as soon as they complete their answers and not to wait for 8:30 PM.
5. Submissions after due date & time will not be entertained. Attach undertaking with each course code which were allowed to attempt in Urdu.
6. If plagiarism found, Student may be declared fail.

Q. No.	Questions	Marks
Q.No.1	Explain the method of row reduction for solution of determinant by taking example of your choice. Take any system of linear equations and solve by using Gaussian-Jordan Elimination Method.	15+18
Q.No.2	Explain the concept of mapping and types of mapping by providing examples. Also define group and cyclic groups and provide examples to differentiate between groups and cyclic groups.	15+18
Q.No.3	a) Apply Ratio test to check the convergence or divergence of the following series. $\sum_0^{\infty} \frac{(n+1)(n+2)}{n!}$ and $\sum_1^{\infty} n^3 e^{-n^4}$ b) Apply Cauchy,s Root test convergence of followings. $\sum_1^{\infty} \left(\frac{n}{n^3+1}\right)^n$ and $\sum_1^{\infty} n \left(\frac{\pi}{n}\right)^n$	16+18