



TAMIL NADU OPEN UNIVERSITY
Chennai-15.
B.Sc Maths with Computer Applications - Third Year
SPOT ASSIGNMENT

COURSE	COURSE CODE	ADMISSION YEAR
Real and Complex Analysis	BMC- 31	CY - 2017

Time : 1 Hour

Total Marks: 25

Answer all questions.

1. State and prove Holder's inequality. 8 Marks
2. Prove that any compact subset of a metric space is closed and bounded. 9 Marks
3. State and prove Cauchy's integral formula. 8 Marks



TAMIL NADU OPEN UNIVERSITY
Chennai-15.
B.Sc Maths with Computer Applications - Third Year
SPOT ASSIGNMENT

COURSE	COURSE CODE	ADMISSION YEAR
Linear Algebra and Boolean Algebra	BMC- 32	CY - 2017

Time : 1 Hour

Total Marks: 25

Answer all questions.

1. Let V be a finite dimensional vector space over a field F . Let A be a subspace of V . Prove that there exists a subspace B of V such that $V=A \oplus B$. 9 Marks
2. Define an inner product space and give examples. Also prove Schwartz's inequality. 8 Marks
3. Prove that the set of all normal subgroups of a group is a modular lattice. 8 Marks



TAMIL NADU OPEN UNIVERSITY
Chennai-15.
B.Sc Maths with Computer Applications – Third Year
SPOT ASSIGNMENT

COURSE Linear Programming and Operations Research	COURSE CODE BMC- 33	ADMISSION YEAR CY - 2017
--	-------------------------------	------------------------------------

Time : 1 Hour

Total Marks: 25

Answer all questions.

1. A marketing manager has 5 salesmen and 5 sales districts. 9 Marks
Considering the capabilities of the salesman and the nature of districts, the marketing manager estimates that sales per month (in hundred rupees) for each salesman in each district would be as follows.

Jobs	Machine				
	A	B	C	D	E
1	32	38	40	28	40
2	40	24	28	21	36
3	41	27	33	30	37
4	22	38	41	36	36
5	29	33	40	35	39

- Find the assignment of salesman to districts that will result in maximum sales.
2. Discuss the problem of EOQ with uniform demand and several production runs of unequal length. 9 Marks
3. A TV Repairman finds that the time spent on his jobs has an exponential distribution with mean 30 minutes. If he repairs sets in the order in which they came in and if the arrival of sets is approximately poisson with an average rate of 10 per 8 hours day, what is repairman's expected idle time each day? How many jobs are ahead of the average set just brought in? 7 Marks



TAMIL NADU OPEN UNIVERSITY
Chennai-15.
B.Sc Maths with Computer Applications - Third Year
SPOT ASSIGNMENT

COURSE	COURSE CODE	ADMISSION YEAR
Graph Theory	BMC - 34	CY - 2017

Time : 1 Hour

Total Marks: 25

Answer all questions.

- 1 Define Isomorphism between two graphs and give example. Also prove that if G is self-complementary then $p \equiv 0, 1 \pmod{4}$. 8 Marks
- 2 If G is a graph with $p \geq 3$ and $\delta \geq p/2$, prove that G is hamiltonian. 9 Marks
- 3 State and prove Euler's formula on plane graphs. 8 Marks



TAMIL NADU OPEN UNIVERSITY
Chennai-15.
B.Sc Maths with Computer Applications - Third Year
SPOT ASSIGNMENT

COURSE	COURSE CODE	ADMISSION YEAR
Introduction to Internet Programming (Java)	BMC - 35	CY - 2017

Time : 1 Hour

Total Marks: 25

Answer all questions.

- 1 Write a note on Java virtual machines (JVM). 8 Marks
- 2 Write a program to check whether a given number is a palindrome or not. 9 Marks
- 3 Write a note on Applet. 8 Marks