



ADITYA COLLEGE OF PHARMACY

Aditya nagar, Surampalem,
Andhra Pradesh 533437

A VALUE ADDED course on



“BEHAVIOURAL STUDIES BY MAZE APPARATUS”

Eligibility: IV B.Pharmacy

Students who are interested to join Value added course should contact the respective coordinator



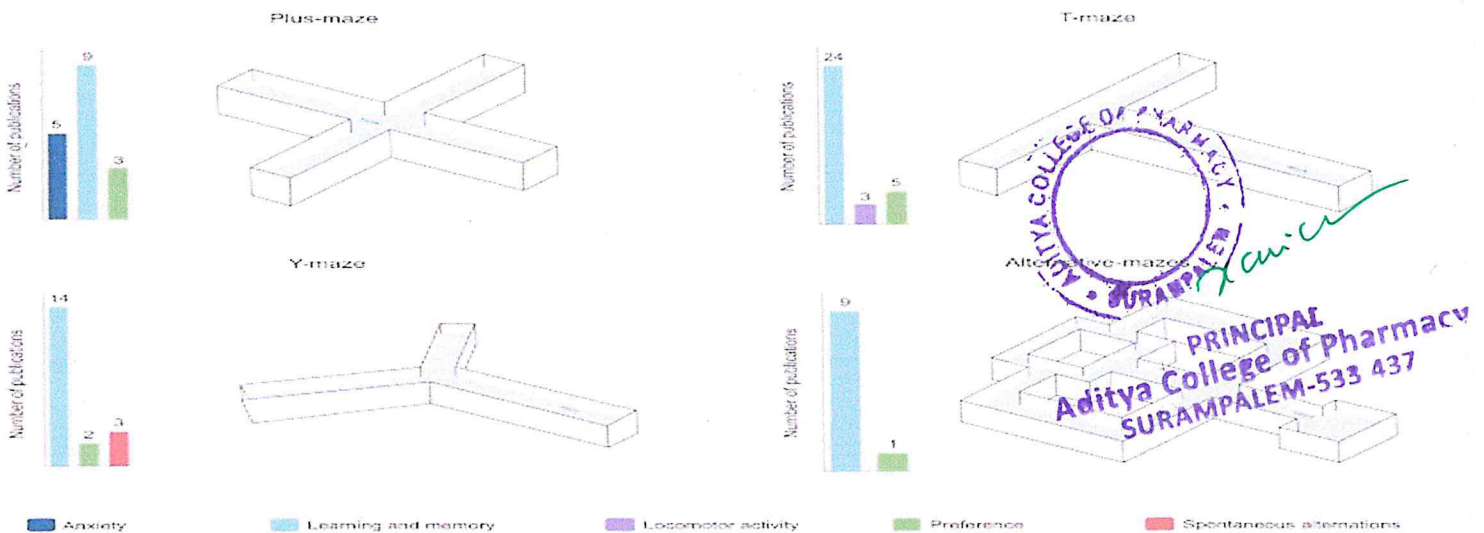
Coordinator: J.M. Sruthi
Asst. Professor,
Aditya College of Pharmacy



Convener & Resource Person:
Dr. K. Ravishankar
Principal,
Aditya College of Pharmacy



Patron: Dr. N. Satish Reddy
Vice-Chairman,
Aditya Educational Institutions



All the students enrolled in this course will be provided with a certificate



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(Affiliated to JNTUK, Approved by AICTE)



(ADITYA NAGAR, ADB ROAD, SURAMPALEM 533 437, E.G.Dt, Ph.9949876664, 08852-200005)

Website: www.acop.edu.in, Email: office@acop.edu.in

COURSE SYLLABUS

DURATION: 30Hrs

COURSE NAME: Behavioral studies by Maze Apparatus

Course objective:

- To study the behavioral changes in rodents by using different types of Mazes.
- To study the medication that influences the nervous system or the cognitive functioning of the brain like the drugs used for Alzheimer's disease, schizophrenia, anxiety, and depression-related disorders all get tested on small rodents, most notably mice and rats.

Course outcome:

- To understand the property of Pharmaceutical products that influences the Behavioral changes in rodents

DAY 1: 12-02-2021 (6Hrs)

MODULE I:

Radial Arm Maze: Basic overview of procedure- Special features- Radial arm maze measures.

The 8 arm radial maze is a popular choice for behavioral researchers studying spatial working and reference memory since it's easy to run and subsequently provides a lot of data.

DAY 2: 19-02-2021 (6Hrs)

MODULE II:

T-Maze: T-Maze has been widely used in neuroscience for studies of spatial learning and memory.

- Basic overview of procedure
- Special variations: Automated T-Maze, Two problem T-Maze, Light/Dark maze, Continuous angled maze
- T maze measures : spatial memory using reward alternation, spatial learning using spontaneous alternation



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Y- Maze:

The Y-maze (named and built after the letter 'Y') is primarily used for testing rodents' spatial abilities.

- Basic overview of procedure
- Special features
- Y maze measures - using a Double Y-Maze to test mnemonic function, having social interaction cages as in the Social Y-Maze, and, extending the arms to have escape tubes.

DAY 3: 26-02-2021 (6Hrs)

MODULE III:

Barnes Maze:

- Basic overview of procedure
- Special features
- Barnes maze measures. Measurable factors include: escape time, distance traveled, the number of times they check out non-escape holes (errors), and search strategy (random, sequential, or patterned).

DAY 4: 05-03-2021 (6Hrs)

MODULE IV:

Elevated plus maze

- Basic overview of procedure-
- Special features- Elevated Plus maze measures, open arm entries, closed arm entries, ratio of time spent in each arm, unprotected head dips/stretching/rearing, closed arm rearing

DAY 5: 12-03-2021 (6Hrs)

MODULE V

Forced swim test

- Basic overview of procedure-
- Special features



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- Forced swim test measures.

Active behaviors: such as swimming or attempting to climb on the apparatus' walls

Passive behaviors: length of time that the mouse/rat is immobile and barely moving in the water, Open field test, Basic overview of procedure-Special features-open field apparatus measures.

References

1. Kaidanovich-Beilin, O., Lipina, T., Vukobradovic, I., Roder, J., & Woodgett, J. R. (2011). Assessment of Social Interaction Behaviors. Journal of Visualized Experiments : JoVE, (48), 2473. Advance online publication.
2. Nadler JJ, Moy SS, Dold G, Trang D, Simmons N, Perez A, Young NB, Barbaro RP, Piven J, Magnuson TR, Crawley JN. (2004) Automated apparatus for quantitation of social approach behaviors in mice. Genes Brain Behav. 3(5):303-14.
3. Bales KL, Solomon M, Jacob S, Crawley JN, Silverman JL, Larke RH, Sahagun E, Puhger KR, Pride MC, Mendoza SP. (2014) Long-term exposure to intranasal oxytocin in a mouse autism model. Transl Psychiatry. 4:e480. doi: 10.1038/tp.2014.117.
4. Bolhuis, J.J., Biljlsma, S., Ansmink, P. (1986) Exponential decay of spatial memory of rats in a radial maze. Behav. Neural Biol. 46, 115-122
5. Hodges, H. (1996) Maze procedures: the radial-arm and water maze compared. Cog. Brain Research 3, 167-181



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ADITYA

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Approved by AICTE & PCI - NEW DELHI, Affiliated to JNTUK KAKINADA
(Formerly known as Sri Sai Aditya Institute of Pharmaceutical Sciences & Research)

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CERTIFICATE COURSE SUMMARY 2020-21

COURSE CODE AND NAME : VBHM and Behavioural studies by Maze apparatus

COURSE DURATION : 30Hrs

BRANCH AND YEAR OFFERED: IV B.Pharmacy

COURSE INSTRUCTORS : Dr.K.Ravi Shankar, Principal and Professor

COURSE OUTCOME

The student would be able to understand the property of Pharmaceutical products that influences the Behavioural changes in rodents

COURSE TYPE : Self framed course

ASSESSMENT MODE

ATTENDANCE : 30 Hours

NO.OF PARTICIPANTS : 35

SCHEME OF EXAM : MCQ Offline

DATE OF EXAM : 15-03-2021

J.M. Buthi

Course coordinator



S. Srinivasan
Principal

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CERTIFICATE OF COMPLETION



This is to certify that

Mr./Ms. _____ bearing roll no. _____ has been completed the Value Added Course entitled

“Behavioral Studies By Maze Apparatus” held in Aditya college of Pharmacy, surampalem from 12th February to 12th March, 2021

N. Golu Das
CHAIRMAN

N. Sridhar
VICE-CHAIRMAN

X. Mani Chander
PRINCIPAL



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