



# Indra Ganesan

## COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
Accredited by NAAC with 'B+' Grade, 2(F) & 12B Status Institution by UGC

IG Valley, Madurai Main Road, Manikandam, Tiruchirappalli - 620012

# NAAC DOCUMENTS

---

## QUALITY INDICATOR FRAME WORK

---

### CRITERION – 2

---

## TEACHING-LEARNING AND EVALUATION

---

SUBMITTED BY

# IQAC

INTERNAL QUALITY ASSURANCE CELL

## INDRA GANESAN COLLEGE OF ENGINEERING





<b>Criteria2</b>	<b>Teaching-Learning and Evaluation</b>	<b>350</b>
------------------	---	------------

**Key Indicator-2.3. Teaching-Learning Process(40)**

**2020-2021**

**PARTICIPATIVE LEARNING**

**COMPUTER SCIENCE ENGINEERING and ME (CSE)**

Activity	Number of Students Attended	Page No.
Value Added Course(VAC)	164	3
<b>TOTAL STUDENTS ATTENDED</b>	<b>164</b>	<b>-</b>



**Criteria2**

**Teaching-Learning and Evaluation**

**350**

**KeyIndicator-2.3.Teaching-Learning Process(40)**

**2020-2021**

**COMPUTER SCIENCE  
ENGINEERING, AIDS and  
ME (CSE)**

**PARTICIPATIVE LEARNING  
VALUE ADDED COURSE**



# Indra Ganesan

COLLEGE OF ENGINEERING  
Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli- 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

Department of Computer Science and Engineering

Academic Year 2020-2021 –ODD Semester

11.12.2020

## DEPARTMENT CIRCULAR

Department of Computer Science and Engineering and IQAC of IGCE in association with **Mind Soft Technologies**, is going to organize Value Added Course for UG II,III,IV and PG I year students on “**Machine Learning With R**” from 14.12.2020 to 18.12.2020. Certificates will be issued to the eligible participants at the end of the Course. This training is to be provided in our campus.

<b>Resource Person Detail</b>	<b>I.Mr.Eswaran Project Manager Mind Soft Technologies, Bangalore</b>
<b>Venue</b>	<b>Google Meet: <a href="https://meet.google.com">meet.google.com</a></b>

  
HOD/CSE

Cc:

- Principal Table
- IQAC Co-Ordinator
- HoD/ CSE
- Class In charges - II, III & IV and PG I Year
- II, III & IV-Year and PG I CSE Students
- Office File
- NoticeBoard

  
PRINCIPAL

  
Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli-620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai


Value Added Course

“Machine Learning with R”

SYLLABUS

S.NO	TOPIC COVERED	DURATION (in hours)	DATE
1	Introduction to Machine Learning and R Basics	3	14.12.2020
2	Data Preprocessing and Exploratory Data Analysis (EDA) in R	3	14.12.2020
3	Supervised Learning Algorithms	3	15.12.2020
4	Unsupervised Learning Algorithms	3	15.12.2020
5	Advanced Topics in Machine Learning with R	3	16.12.2020
6	Decision Trees and Random Forest	3	16.12.2020
7	Clustering (K-Means and Hierarchical)	3	17.12.2020
8	Principal Component Analysis (PCA)	3	17.12.2020
9	Neural Networks with the keras Package	3	18.12.2020
10	Real-world applications of machine learning with R	3	18.12.2020
11	Exam	1	18.12.2020
<b>Total Hours(Excluding Exam)</b>		30	-

  
VAC Coordinator

  
Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

  
HOD/CSE



# Indra Ganesan

COLLEGE OF ENGINEERING  
Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli- 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

## Value Added Course

### STUDENTS PARTICIPATION LIST

#### "Machine Learning with R"

S.NO.	REG.NO	STUDENT'S NAME	YEAR/ BRANCH
1	811217104001	AARTHI J	IV/CSE
2	811217104002	DEEPIKA N	IV/CSE
3	811217104003	DHANALAKSHMI R	IV/CSE
4	811217104004	GOADHAR FATHIMA S	IV/CSE
5	811217104005	GOWTHAM RAAJ K	IV/CSE
6	811217104007	JEYA PRATHA A	IV/CSE
7	811217104008	JICKSON S	IV/CSE
8	811217104009	KAMATCHI V	IV/CSE
9	811217104010	KOKILA V	IV/CSE
10	811217104011	LAKSHMI PRIYA M	IV/CSE
11	811217104012	NAVEEN R	IV/CSE
12	811217104013	PANNEER SELVAM R	IV/CSE
13	811217104014	PRINCY DEEPA X	IV/CSE
14	811217104015	RAGHUL L	IV/CSE
15	811217104016	SALMA BANU M	IV/CSE
16	811217104017	SEEBIKA M	IV/CSE
17	811217104019	SIVA SANKARI S	IV/CSE
18	811217104020	SWATHI M	IV/CSE
19	811217104022	VASUKI M	IV/CSE
20	811217104023	YOGESH KANNAN P H	IV/CSE
21	811218104001	AISHWARYA M	III/CSE
22	811218104002	AJITH KUMAR R	III/CSE
23	811218104003	ARAVINDH SAMY P	III/CSE
24	811218104004	ARJUN V	III/CSE
25	811218104005	DHARSHINI A	III/CSE
26	811218104006	DINESH KUMAR K	III/CSE
27	811218104007	GOWTHAM K	III/CSE
28	811218104008	HARIHARAN N	III/CSE
29	811218104009	HEMA LATHA B	III/CSE
30	811218104010	JEGATHISWARID	III/CSE
31	811218104011	JOSHI DAYANA K	III/CSE
32	811218104012	KANAGARAJ K S	III/CSE
33	811218104013	KIRUTHIGA V	III/CSE

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal

Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli- 620 012

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

S.NO.	REG.NO	STUDENT'S NAME	YEAR/ BRANCH
34	811218104014	MADHAVAN S	III/CSE
35	811218104015	MAHENDRAN S	III/CSE
36	811218104017	MUTHAIYA P	III/CSE
37	811218104018	NEETHIMOZHI A	III/CSE
38	811218104019	NITHYA P	III/CSE
39	811218104020	NIVEDHA S	III/CSE
40	811218104021	PRIYANGA G	III/CSE
41	811218104022	RAMYA R	III/CSE
42	811218104023	SHARVESH CHARAN.S.A	III/CSE
43	811218104024	SATHASIVAM P	III/CSE
44	811218104026	SHALINI P	III/CSE
45	811218104027	SHANMUGANATHAN P	III/CSE
46	811218104028	SHEELA.S	III/CSE
47	811218104029	SUDHAKARAN C	III/CSE
48	811218104030	SUGASIN L G	III/CSE
49	811218104031	VAISHNAVI G	III/CSE
50	811218104032	VIGNA SRI S	III/CSE
51	811218104033	VIJAYA DHARANI K	III/CSE
52	811218104034	VINOTHINI S	III/CSE
53	811218104501	SIVASANGARI C	III/CSE
54	811219104001	ARUN R	II/CSE
55	811219104002	BALAMANIKANDAPRABHU B R	II/CSE
56	811219104003	BHARATHI S	II/CSE
57	811219104004	GOWTHAM C	II/CSE
58	811219104005	INDHUMATHI S	II/CSE
59	811219104006	ISHWARYA P	II/CSE
60	811219104007	KALAIYARASAN V	II/CSE
61	811219104008	KEERTHIKA K	II/CSE
62	811219104009	KEERTHIKA V	II/CSE
63	811219104010	KRISHI GOWTHAM R	II/CSE
64	811219104011	LOGADIPA SP	II/CSE
65	811219104012	MOHAMED NWSATH M	II/CSE
66	811219104013	MOORTHI C	II/CSE
67	811219104014	NANCY C	II/CSE
68	811219104016	PRAVEEN K	II/CSE
69	811219104017	RANJANA S	II/CSE
70	811219104018	RAVINYA K	II/CSE

  
Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal

Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

**COLLEGE OF ENGINEERING**

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli- 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

S.NO.	REG.NO	STUDENT'S NAME	YEAR/ BRANCH
71	811219104020	SARANYA P	II/CSE
72	811219104021	SUVALAKSHMI P	II/CSE
73	811219104022	SWEATHA B	II/CSE
74	811219104023	VIGNESHWARAN V	II/CSE
75	811219104024	VIJAYALAKSHMI B	II/CSE
76	811219104025	VINCY SHARMILA K	II/CSE
77	811219104026	YATHESH M	II/CSE
78	811220405001	DEEPA LAKSHMI N	I/M.E(CSE)
79	811220405002	ISWARYA R	I/M.E(CSE)
80	811220405003	KARTHIGA M	I/M.E(CSE)
81	811220405004	KARTHIKA M	I/M.E(CSE)
82	811220405005	RAMALAKSHMI M	I/M.E(CSE)

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal

Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

VAC Coordinator

HOD/CSE







# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Trichy-12

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

Dr. C. Balakrishnan, M.E., Ph.D.  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH	14.12.2020		15.12.2020		16.12.2020		17.12.2020		18.12.2020		NO OF SESSIONS ATTENDED	SIGN OF STUDENT
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
40	811218104021	PRIYANGA.G	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
41	811218104022	RAMYA R	III/CSE	/	/	/	/	/	/	/	/	/	/	9	
42	811218104023	SHARVESH CHARAN.S.A	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
43	811218104024	SATHASIVAMP	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
44	811218104026	SHALINI P	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
45	811218104027	SHANMUGANATHAN P	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
46	811218104028	SHEELA.S	III/CSE	/	/	/	/	/	/	/	/	/	/	9	
47	811218104029	SUDHAKARAN C	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
48	811218104030	SUGASINLG	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
49	811218104031	VAISHNAVI G	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
50	811218104032	VIGNA SRI S	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
51	811218104033	VIJAYA DHARANI K	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
52	811218104034	VINOTHINI S	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
53	811218104501	SIVASANGARI C	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
54	811219104001	ARUN R	II CSE	/	/	/	/	/	/	/	/	/	/	9	
55	811219104002	BALAMANIKANDAPRABHU B R	II CSE	/	/	/	/	/	/	/	/	/	/	10	
56	811219104003	BHARATHI S	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
57	811219104004	GOWTHAM C	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
58	811219104005	JNDHUMATHI S	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
59	811219104006	ISHWARYA P	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
60	811219104007	KAI AIYARASAN V	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
61	811219104008	KEERTHIKA K	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
62	811219104009	KEERTHIKA V	II/CSE	/	/	/	/	/	/	/	/	/	/	9	
63	811219104010	KRISHI GOWTHAM R	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
64	811219104011	LOGADIPA SP	II CSE	/	/	/	/	/	/	/	/	/	/	10	

Online Mode



# Indra Ganesan

**COLLEGE OF ENGINEERING**

Madurai Main Road (NH-45B), Manikandam, Trichy-12.

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

S.NO	REG NO	STUDENTS NAME	YEAR/ BRANCH	14.12.2020		15.12.2020		16.12.2020		17.12.2020		18.12.2020		NO OF SESSION ATTEND ED	SIGN OF THE STUDENT
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
65	811219104012	MOHAMED NOWSATH M	II/CSE	/	/	a	/	/	/	/	/	/	/	9	Online Mode
66	811219104013	MOORTHIC	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
67	811219104014	NANCY C	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
68	811219104016	PRAVEEN K	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
69	811219104017	RANJANA S	II/CSE	/	a	/	/	/	/	/	/	/	/	10	
70	811219104018	RAVINYA K	II/CSE	/	/	/	/	/	/	/	/	/	/	9	
71	811219104020	SARANYA P	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
72	811219104021	SUVALAKSHMI P	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
73	811219104022	SWEATHA B	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
74	811219104023	VIGNESHWARAN V	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
75	811219104024	VIJAYALAKSHMI B	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
76	811219104025	VINCY SHARMILA K	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
77	811219104026	YATHESH M	II/CSE	/	/	/	/	/	/	/	/	/	/	10	
78	811220405001	DEEPA LAKSHMI N	I/M.E(CSE)	/	/	/	/	/	a	/	/	/	/	10	
79	811220405002	ISWARYA R	I/M.E(CSE)	/	/	/	/	/	/	/	/	/	/	9	
80	811220405003	KARTHIGA M	I/M.E(CSE)	/	/	/	/	/	/	/	/	/	/	10	
81	811220405004	KARTHIKA M	I/M.E(CSE)	/	/	/	/	/	/	/	/	/	/	10	
82	811220405005	RAMAJ AKSHMI M	I/M.E(CSE)	/	/	/	/	/	/	/	/	/	/	10	

  
VAC Coordinator

  
Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal

Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

  
HoD/CSE



# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli- 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

Name of the Student :

Year/Sem:

AU Register Number:

Value Added Course on "Machine learning with R"

## MCQ QUESTIONS (25X4 = 100 Marks)

1. R was created by?

- a) Ross Ihaka
- b) Robert Gentleman
- c) Both A and B
- d) Ross Gentleman

2. R allows integration with the procedures written in the?

- a) C
- b) Ruby
- c) Java
- d) Basic

3. R is free software distributed under a GNU-style copy left, and an official part of the GNU project called?

- a) GNU A
- b) GNU S
- c) GNU L
- d) GNU R

4. R made its first appearance in?

- A. 1992
- B. 1995
- C. 1993
- D. 1994

5. Which of the following is true about R?

- A. R is a well-developed, simple and effective programming language
- B. R has an effective data handling and storage facility
- C. R provides a large, coherent and integrated collection of tools for data analysis.
- D. All of the above

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli- 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

6. Point out the wrong statement?

- A. Setting up a workstation to take full advantage of the customizable features of R is a straightforward thing
- B. `q()` is used to quit the R program
- C. R has an inbuilt help facility similar to the `man` facility of UNIX
- D. Windows versions of R have other optional help systems also

7. Command lines entered at the console are limited to about \_\_\_\_\_ bytes

- A. 4095
- B. 4096
- C. 4097
- D. 4098

8. R language is a dialect of which of the following languages?

- A. s
- B. c
- C. sas
- D. matlab

9. How many atomic vector types does R have?

- A. 3
- B. 4
- C. 5
- D. 6

10. R files has an extension \_\_\_\_\_.

- A. S
- B. RP
- C. R
- D. SP

11. How do you start writing an if statement in R?

- A) `if (x > y)`
- B) `if x > y:`
- C) `if x > y then:`
- D) None of the above

12. \_\_\_\_\_ is simplest class of analytics.

- A) Predictive
- B) Prescriptive
- C) Summarization
- D) Descriptive

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal

Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

COLLEGE OF ENGINEERING  
Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli- 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

13. \_\_\_\_\_ is proprietary tool for predictive analytics.
- A) R
  - B) EDR
  - C) SAS
  - D) SSAS
14. Among the following which is not a horn clause?
- a)  $p$
  - b)  $\emptyset p \vee q$
  - c)  $p \rightarrow q$
  - d)  $p \rightarrow \emptyset q$
15. What is the purpose of regularization in machine learning?
- a) To reduce the number of features in a model
  - b) To prevent overfitting and improve generalization
  - c) To speed up the training process
  - d) To increase the accuracy of the model
16. Which of the following is an example of a semi-supervised learning problem?
- a) Image classification
  - b) Object detection
  - c) Text clustering
  - d) Speech recognition
17. Which of the following is a common regularization technique for linear regression?
- a) L1 regularization (Lasso)
  - b) L2 regularization (Ridge)
  - c) Dropout
  - d) Batch normalization
18. Which of the following is a common approach to solving a time series forecasting problem?
- a) ARIMA models
  - b) Exponential smoothing
  - c) Recurrent neural networks
  - d) All of the above
19. Which of the following is a common activation function used in deep learning?
- a) Sigmoid
  - b) Linear
  - c) Exponential

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli- 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

d) Quadratic

**20. Which of the following is an example of an unsupervised learning problem?**

- a) Predicting the stock market
- b) Recommending products to users
- c) Spam filtering
- d) Sentiment analysis

**21. Which of the following is a disadvantage of decision trees?**

- A. Factor analysis
- B. Decision trees are robust to outliers
- C. Decision trees are prone to be overfit
- D. None of the above

**22. How do you handle missing or corrupted data in a dataset?**

- A. Drop missing rows or columns
- B. Replace missing values with mean/median/mode
- C. Assign a unique category to missing values
- D. All of the above

**23. When performing regression or classification, which of the following is the correct way to preprocess the data?**

- A. Normalize the data -> PCA -> training
- B. PCA -> normalize PCA output -> training
- C. Normalize the data -> PCA -> normalize PCA output -> training
- D. None of the above

**24. Which of the following statements about regularization is not correct?**

- A. Using too large a value of lambda can cause your hypothesis to underfit the data.
- B. Using too large a value of lambda can cause your hypothesis to overfit the data
- C. Using a very large value of lambda cannot hurt the performance of your hypothesis.
- D. None of the above

**25. What is a sentence parser typically used for?**

- A. It is used to parse sentences to check if they are utf-8 compliant.
- B. It is used to parse sentences to derive their most likely syntax tree structures.
- C. It is used to parse sentences to assign POS tags to all tokens.
- D. It is used to check if sentences can be parsed into meaningful tokens.

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

**COLLEGE OF ENGINEERING**

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli- 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

Value Added Course

**“Machine learning with R”**

**ANSWER KEY**

1	C	6	B	11	C	16	C	21	A
2	A	7	A	12	B	17	B	22	C
3	B	8	A	13	A	18	A	23	C
4	C	9	B	14	B	19	A	24	B
5	D	10	C	15	C	20	C	25	B

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

VAC Coordinator

22  
25

1. c) Both A and B ✓
2. A) C ✓
3. B) CRAN ✓
4. c) 1993 ✓
5. D) All of the above ✓
6. B) q() is used to quit the R program
7. A) 4095 ✓
8. A) S ✓
9. B) A ✓
10. c) R ✓
11. c) if  $x > y$  then ✓
12. B) prescriptive ✓
13. A) R ✓
14. B)  $\emptyset P V q$  ✓
15. c) To speed up the training process ✓
16. c) Text clustering ✓
17. B) L2 regularization (Ridge) ✓
18. A) ARIMA models ✓
19. A) Sigmoid ✓
20. c) spam filtering ✓
21. A) Factor analysis ✓
22. c) Decision Assign a unique category to missing values ✓
23. D) None of the above ✓
24. D) None of the above ✓
25. A) It is used to parse sentences to check if they are utf8 ✓

Koumudi/a  
2nd CSE  
811219104011

20  
25

CO...

- 1)  A) Ross Thinka X
- 2)  A) c ✓
- 3)  B) GNU S ✓
- 4)  d) 1993 X
- 5)  D) All of the above ✓
- 6)  B) q() is used to quit the R program ✓
- 7)  A) 1095 ✓
- 8)  a) S ✓
- 9)  D) 6 X
- 10)  R ✓
- 11)  c) if  $\lambda > y$  then: ✓
- 12)  B) p,  $\lambda$  explosive ✓
- 13)  A) R ✓
- 14)  B)  $\phi p v q$  ✓
- 15)  c) To speed up the training process ✓
- 16)  c) Test clustering ✓
- 17)  B) L2 regularization (Ridge) ✓
- 18)  A) PRIMA models ✓
- 19)  A) Sigmoid ✓
- 20)  c) Spam filtering ✓
- 21)  A) factor analysis ✓
- 22)  c) Assign a unique category to missing values ✓
- 23)  D) None of the above ✓
- 24)  D) None of the above ✓
- 25)  B) It is used to parse sentences to check if they are utf-8 compliant. ✓

Dr. G. Balakrishnan, M.A., Ph.D.,  
Principal  
Indira Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

**COLLEGE OF ENGINEERING**

Madurai Main Road (NH-45B), Manikandam, Trichy-12.

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

## STUDENTS MARK SHEET LIST

### VALUE ADDED COURSE

#### Machine learning with R

S.No.	Reg.No.	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Session Attende d	Attendance Percentage (100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
1	811217104001	AARTHI J	IV/CSE	30	100	20	80	90
2	811217104002	DEEPIKA N	IV/CSE	30	83	15	60	72
3	811217104003	DHANALAKSHMI R	IV/CSE	30	100	19	76	88
4	811217104004	GOADHAR FATHIMA S	IV/CSE	30	100	22	88	94
5	811217104005	GOWIHAM RAAJ K	IV/CSE	29	92	18	72	82
6	811217104007	JEYA PRATHA A	IV/CSE	28	92	17	68	80
7	811217104008	JICKSON S	IV/CSE	28	100	18	72	86
8	811217104009	KAMATCHI V	IV/CSE	29	83	17	68	76
9	811217104010	KOKILA V	IV/CSE	29	92	16	64	78
10	811217104011	LAKSHMI PRIYA M	IV/CSE	30	92	16	64	78
11	811217104012	NAVEEN R	IV/CSE	30	100	20	80	90
12	811217104013	PANNEER SELVAM R	IV/CSE	30	92	20	80	86
13	811217104014	PRINCY DEEPA X	IV/CSE	28	100	22	88	94
14	811217104015	RAGHUL L	IV/CSE	29	92	17	68	80
15	811217104016	SALMA BANU M	IV/CSE	29	83	16	64	74
16	811217104017	SEEBIKA M	IV/CSE	30	83	16	64	74



# Indra Ganesan

**COLLEGE OF ENGINEERING**

Madurai Main Road (NH-45B), Manikandam, Trichy-12.

Approved by AICTE, NewDelhi & Affiliated to Anna University, Chennai

Dr. G. Balakrishnan, M.E., Ph.D.  
Principal

Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Session Attende d	Attendance Percentage (100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
17	811217104019	SIVA SANKARI S	IV/CSE	30	100	22	88	94
18	811217104020	SWATHI M	IV/CSE	30	92	18	72	82
19	811217104022	VASUKI M	IV/CSE	30	100	22	88	94
20	811217104023	YOGESH KANNAN P H	IV/CSE	28	100	22	88	94
21	811218104001	AISHWARYA M	III/CSE	28	92	20	80	86
22	811218104002	AJITH KUMAR R	III/CSE	28	92	19	76	84
23	811218104003	ARAVINDH SAMY P	III/CSE	29	100	20	80	90
24	811218104004	ARJUN V	III/CSE	29	83	23	64	74
25	811218104005	DHARSHINI A	III/CSE	29	83	22	64	74
26	811218104006	DINESH KUMAR K	III/CSE	30	100	22	88	94
27	811218104007	GOWTHAM K	III/CSE	30	92	18	72	82
28	811218104008	HARIHARAN N	III/CSE	30	100	22	88	94
29	811218104009	HEMA LATHA B	III/CSE	30	100	22	88	94
30	811218104010	JEGATHISWARLD	III/CSE	29	100	22	88	94
31	811218104011	JOSHI DAYANA K	III/CSE	29	92	22	68	80
32	811218104012	KANAGARAJ K S	III/CSE	29	92	19	76	84
33	811218104013	KIRUTHIGA V	III/CSE	30	92	19	76	84
34	811218104014	MADHAVAN S	III/CSE	30	100	20	80	90
35	811218104015	MAHENDRAN S	III/CSE	30	83	18	64	74
36	811218104017	MUTHAIYA P	III/CSE	28	83	16	64	74
37	811218104018	NEETHIMOZHI A	III/CSE	28	100	22	88	94
38	811218104019	NITHYA P	III/CSE	28	92	18	72	82
39	811218104020	NIVEDHA S	III/CSE	30	100	22	88	94



# Indra Ganesan

**COLLEGE OF ENGINEERING**

Madurai Main Road (NH-45B), Manikandam, Trichy-12.

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

  
Dr. C. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Session Attende d	Attendance Percentage (100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
40	811218104021	PRIYANGA.G	III/CSE	30	100	20	80	90
41	811218104022	RAMYA R	III/CSE	30	83	16	64	74
42	811218104023	SILARVESH CHARAN.S.A	III/CSE	29	92	19	76	84
43	811218104024	SATHASIVAM P	III/CSE	29	92	19	76	84
44	811218104026	SHALINI P	III/CSE	29	100	20	80	90
45	811218104027	SHANMUGANATHAN P	III/CSE	29	83	16	64	74
46	811218104028	SHEELA.S	III/CSE	29	83	16	64	74
47	811218104029	SUDHAKARAN C	III/CSE	29	100	22	88	94
48	811218104030	SUGASINLG	III/CSE	30	92	18	72	82
49	811218104031	VAISHNAVI G	III/CSE	30	92	19	76	84
50	811218104032	VIGNA SRI S	III/CSE	30	92	19	76	84
51	811218104033	VIJAYA DHARANI K	III/CSE	30	100	20	80	90
52	811218104034	VINOTHINI S	III/CSE	30	100	20	80	90
53	811218104501	SIVASANGARI C	III/CSE	30	83	16	64	74
54	811219104001	ARUN R	II/CSE	30	83	16	64	74
55	811219104002	BALAMANIKANDAPRABHU B R	II/CSE	30	100	22	88	94
56	811219104003	BHARATHI S	II/CSE	30	92	18	72	82
57	811219104004	GOWTHAM C	II/CSE	30	100	22	88	94
58	811219104005	INDHUMATHI S	II/CSE	30	100	22	88	94
59	811219104006	ISHWARYA P	II/CSE	30	100	22	88	94
60	811219104007	KALAIYARASAN V	II/CSE	29	100	20	80	90
61	811219104008	KEERTHIKA K	II/CSE	29	83	16	64	74
62	811219104009	KEERTHIKA V	II/CSE	28	83	16	64	74



# Indra Ganesan

**COLLEGE OF ENGINEERING**

Madurai Main Road (NH-45B), Manikandam, Trichy-12.

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

Dr. C. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Session Attende d	Attendance Percentage (100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
63	811219104010	KRISHI GOWTHAM R	II/CSE	28	100	22	88	74
64	811219104011	LOGADIPA SP	II/CSE	29	100	20	80	74
65	811219104012	MOHAMED NOWSATH M	II/CSE	29	83	16	64	94
66	811219104013	MOORTHY C	II/CSE	29	100	22	88	90
67	811219104014	NANCY C	II/CSE	29	92	18	72	74
68	811219104016	PRAVEEN K	II/CSE	30	100	22	88	94
69	811219104017	RANJANA S	II/CSE	30	83	16	64	82
70	811219104018	RAVINYA K	II/CSE	30	100	22	88	94
71	811219104020	SARANYA P	II/CSE	30	92	18	72	74
72	811219104021	SUVALAKSHMI P	II/CSE	30	100	22	64	94
73	811219104022	SWEATHA B	II/CSE	30	92	18	64	82
74	811219104023	VIGNESHWARAN V	II/CSE	30	100	22	88	82
75	811219104024	VIJAYALAKSHMI B	II/CSE	30	100	22	72	78
76	811219104025	VINCY SHARMILA K	II/CSE	30	92	22	88	94
77	811219104026	YATHESH M	II/CSE	29	100	20	88	86
78	811220405001	DEEPA LAKSHMI N	I/M.E(CSE)	29	100	16	88	90
79	811220405002	ISWARYA R	I/M.E(CSE)	29	83	16	80	94
80	811220405003	KARTHIGA M	I/M.E(CSE)	30	100	22	64	94
81	811220405004	KARTHIKA M	I/M.E(CSE)	30	92	20	64	82
82	811220405005	RAMALAKSHMI M	I/M.E(CSE)	30	100	16	88	82

VAC Coordinator

HoD/CSE



# Indra Ganesan

COLLEGE OF ENGINEERING  
Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli- 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

## Report On Value Added Course

Title	MACHINE LEARNING WITH R				
Resource Person:	Mr.Eswaran, Project Manager Mind Soft Technologies, Bangalore				
Date of conduct from :	14.12.2020	To:	18.12.2020	Duration:	30 Hours
Organized Department	COMPUTER SCIENCE AND ENGINEERING				
Participant	CSE IV,III ,II and PG I Year	No. of Students Registered	82		
Venue:	online mode Google Meet: <a href="https://meet.google.com/14.12.2020">meet.google.com/14.12.2020</a> to 18.12.2020				

**Outcome of Value Added Course (VAC):** At the end of the Course, Students can able to

- Know the fundamentals of MACHINE learning and its architecture.
- Discuss Module, controllers, Events
- Apply inbuilt and custom pipes
- Develop object-oriented Ruby programs using classes and objects
- Design forms and Modules in Machine Learning
- Explain Services, Animations, Routing.

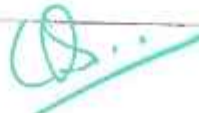
### Assessment Process

- Students, who are securing **more than 60% on total score** and secured more than 75% in attendance is eligible to receive the certificate for the VAC course conducted
- Total Score =  $(0.5 * \text{Attendance in VAC out of 100 percentage} + 0.5 * \text{Test mark in VAC out of 100 marks})$

  
VAC Coordinator

  
HoD/CSE

  
Principal

  
Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Volley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

**COLLEGE OF ENGINEERING**  
Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli- 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

## Report On Value Added Course

Title	<b>MACHINE LEARNING WITH R</b>				
Resource Person:	Mr.Eswaran, Project Manager Mind Soft Technologies, Bangalore				
Date of conduct from :	14.12.2020	To:	18.12.2020	Duration:	30 Hours
Organized Department	<b>COMPUTER SCIENCE AND ENGINEERING</b>				
Participant	CSE IV,III ,II and PG I Year	No. of Students Registered	82		
Venue:	online mode Google Meet: <a href="https://meet.google.com/14.12.2020">meet.google.com/14.12.2020</a> to 18.12.2020				

### Sample Photo



*A. Suresh*  
VAC Coordinator

*D. Reddy*  
HoD/CSE

*[Signature]*  
Principal

Dr. G. BalaKrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

**COLLEGE OF ENGINEERING**  
Madurai Main Road (NH-45B), Manikandam, Trichy-12.  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai



## CERTIFICATE OF PARTICIPATION

This is to certify that Mr/Ms. .... **PRINCY DEEPA X** ..... of  
..... **IV YEAR CSE** ..... has successfully completed the Value Added Course on  
*Machine Learning With R* organized by Department of Computer Science and Engineering and  
IQAC of our Institution in Association with Mind Soft Technologies from 14th Dec 2020 TO 18th  
Dec 2020 during the Academic Year 2020-2021.

**Mr. Eswaran, Project Manager**  
**Mind Soft Technologies**

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

**Principal**  
**IGCE**



# Indra Ganesan

## COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Trichy-12.

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai



### CERTIFICATE OF PARTICIPATION

This is to certify that Mr/Ms. .... **DINESH KUMAR K** ..... of  
..... **III YEAR CSE** ..... has successfully completed the Value Added Course on  
*Machine Learning With R* organized by Department of Computer Science and Engineering and  
IQAC of our Institution in Association with Mind Soft Technologies from 14th Dec 2020 TO 18th  
Dec 2020 during the Academic Year 2020-2021.

**Mr. Eswaran, Project Manager**  
**Mind Soft Technologies**

**Dr. G. Balakrishnan, M.E., Ph.D.,**  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

**Principal**  
**IGCE**



# Indra Ganesan

**COLLEGE OF ENGINEERING**  
Madurai Main Road (NH-45B), Manikandam, Trichy-12.  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai



## CERTIFICATE OF PARTICIPATION

This is to certify that Mr/Ms. .... **LOGADIPA SP** ..... of  
..... **II YEAR CSE** ..... has successfully completed the Value Added Course on  
*Machine Learning With R* organized by Department of Computer Science and Engineering and  
IQAC of our Institution in Association with Mind Soft Technologies from 14th Dec 2020 TO 18th  
Dec 2020 during the Academic Year 2020-2021.

**Mr. Eswaran, Project Manager**  
**Mind Soft Technologies**

Dr. G. Balakrishnan, M.E., Ph.D.  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

**Principal**  
**IGCE**



# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, 2013 Status Institution by CGE



## Department of Computer Science & Engineering

Academic Year 2020-2021 – Even Semester

12.06.2021

### DEPARTMENT CIRCULAR

Department of Computer Science & Engineering and IQAC of IGCE in association with **AXIS V CREATIVES PVT LTD**, is going to organize Value Added Course for UG II,III,IV and PG I year students on “**BIG DATA ANALYTICS**” from 14.06.2021 to 18.06.2021. Certificates will be issued to the eligible participants at the end of the Course. This training is to be provided in our campus.

<b>Resource Person Detail</b>	<b>I.MR.VIVEK AXIS V CREATIVES PVT LTD CHENNAI</b>
Venue	<b>Google Meet: <a href="https://meet.google.com">meet.google.com</a></b>

  
HOD/CSE

  
PRINCIPAL

Cc:

- Principal Table
- IQAC Co-Ordinator
- Class In charges - II, III & IV and PG I Year
- II, III & IV-Year and PG I CSE Students
- Office File
- NoticeBoard

  
Dr. G. Balakrishna, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

## COLLEGE OF ENGINEERING

Madurai Main Road (PBT-45B), Manikandam, Tiruchirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, 2013 Status Institution by UGC



Value Added Course

**“Big Data Analytics”**

**SYLLABUS**

S.NO	TOPIC COVERED	DURATION (in hours)	DATE
1	Introduction to Big Data	3	14.06.2021
2	Data Storage and Management	3	14.06.2021
3	Data Processing Frameworks	3	15.06.2021
4	Data Cleaning and Preprocessing	3	15.06.2021
5	Machine Learning for Big Data	3	16.06.2021
6	Data Visualization	3	16.06.2021
7	Big Data Analytics in Business	3	17.06.2021
8	Privacy and Ethical Considerations	3	17.06.2021
9	Real-Time Analytics	3	18.06.2021
10	Big Data Security	3	18.06.2021
11	Exam	1	18.06.2021
	<b>TOTAL HOURS(Excluding Exam)</b>	<b>30</b>	

*A. Shunug*  
VAC Coordinator

*D. Budd*  
HOD/CSE

*CS*  
Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, 2(B) Status (Justified by 1 GC)



## Value Added Course

### STUDENTS PARTICIPATION LIST

#### "Big Data Analytics"

S.NO.	REG.NO	STUDENT'S NAME	YEAR/ BRANCH
1	811217104001	AARTHI J	IV/CSE
2	811217104002	DEEPIKA N	IV/CSE
3	811217104003	DHANALAKSHMI R	IV/CSE
4	811217104004	GOADHAR FATHIMA S	IV/CSE
5	811217104005	GOWTHAM RAAJ K	IV/CSE
6	811217104007	JEYA PRATHA A	IV/CSE
7	811217104008	JICKSON S	IV/CSE
8	811217104009	KAMATCHI V	IV/CSE
9	811217104010	KOKILA V	IV/CSE
10	811217104011	LAKSHMI PRIYA M	IV/CSE
11	811217104012	NAVEEN R	IV/CSE
12	811217104013	PANNEER SELVAM R	IV/CSE
13	811217104014	PRINCY DEEPA X	IV/CSE
14	811217104015	RAGHUL L	IV/CSE
15	811217104016	SALMA BANU M	IV/CSE
16	811217104017	SEEBIKA M	IV/CSE
17	811217104019	SIVA SANKARI S	IV/CSE
18	811217104020	SWATHI M	IV/CSE
19	811217104022	VASUKI M	IV/CSE
20	811217104023	YOGESH KANNAN P H	IV/CSE
21	811218104001	AISHWARYA M	III/CSE
22	811218104002	AJITH KUMAR R	III/CSE
23	811218104003	ARAVINDH SAMY P	III/CSE
24	811218104004	ARJUN V	III/CSE
25	811218104005	DHARSHINI A	III/CSE
26	811218104006	DINESH KUMAR K	III/CSE
27	811218104007	GOWTHAM K	III/CSE
28	811218104008	HARIHARAN N	III/CSE
29	811218104009	HEMA LATHA B	III/CSE
30	811218104010	JEGATHISWARLD	III/CSE
31	811218104011	JOSHI DAYANA K	III/CSE
32	811218104012	KANAGARAJ K S	III/CSE
33	811218104013	KIRUTHIGA V	III/CSE

  
Dr. S. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.




# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, 2(C) Status Institution by UGC.



S.NO.	REG.NO	STUDENT'S NAME	YEAR/ BRANCH
34	811218104014	MADHAVAN S	III/CSE
35	811218104015	MAHENDRAN S	III/CSE
36	811218104017	MUTHAIYA P	III/CSE
37	811218104018	NEETHIMOZHI A	III/CSE
38	811218104019	NITHYA P	III/CSE
39	811218104020	NIVEDHA S	III/CSE
40	811218104021	PRIYANGA.G	III/CSE
41	811218104022	RAMYA R	III/CSE
42	811218104023	SHARVESH CHARAN.S.A	III/CSE
43	811218104024	SATHASIVAM P	III/CSE
44	811218104026	SHALINI P	III/CSE
45	811218104027	SHANMUGANATHAN P	III/CSE
46	811218104028	SHEELA.S	III/CSE
47	811218104029	SUDHAKARAN C	III/CSE
48	811218104030	SUGASINL.G	III/CSE
49	811218104031	VAISHNAVI G	III/CSE
50	811218104032	VIGNA SRI S	III/CSE
51	811218104033	VIJAYA DHARANI K	III/CSE
52	811218104034	VINOTHINI S	III/CSE
53	811218104501	SIVASANGARI C	III/CSE
54	811219104001	ARUN R	II/CSE
55	811219104002	BALAMANIKANDAPRABHU B R	II/CSE
56	811219104003	BHARATHI S	II/CSE
57	811219104004	GOWTHAM C	II/CSE
58	811219104005	INDHUMATHI S	II/CSE
59	811219104006	ISHWARYA P	II/CSE
60	811219104007	KALAIYARASAN V	II/CSE
61	811219104008	KEERTHIKA K	II/CSE
62	811219104009	KEERTHIKA V	II/CSE
63	811219104010	KRISHI GOWTHAM R	II/CSE
64	811219104011	LOGADIPA SP	II/CSE
65	811219104012	MOHAMED NOWSATH M	II/CSE
66	811219104013	MOORTHI C	II/CSE
67	811219104014	NANCY C	II/CSE
68	811219104016	PRAVEEN K	II/CSE
69	811219104017	RANJANA S	II/CSE
70	811219104018	RAVINYA K	II/CSE

  
Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

## COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai. Certified  
NAAC Accredited, 2(P) Status Institution by UGC



S.NO.	REG.NO	STUDENT'S NAME	YEAR/ BRANCH
71	811219104020	SARANYA P	II/CSE
72	811219104021	SUVALAKSHMI P	II/CSE
73	811219104022	SWEATHA B	II/CSE
74	811219104023	VIGNESHWARAN V	II/CSE
75	811219104024	VIJAYALAKSHMI B	II/CSE
76	811219104025	VINCY SHARMILA K	II/CSE
77	811219104026	YATHESH M	II/CSE
78	811220405001	DEEPA LAKSHMI N	I/M.E(CSE)
79	811220405002	ISWARYA R	I/M.E(CSE)
80	811220405003	KARTHIGA M	I/M.E(CSE)
81	811220405004	KARTHIKA M	I/M.E(CSE)
82	811220405005	RAMALAKSHMI M	I/M.E(CSE)

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal

Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

VAC Coordinator

HoD/CSE





# Indra Ganesan

## COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, 2013 Status Institution by UGC



  
Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

S.NO	REG NO	STUDENTS NAME	YEAR/ BRANC H	14.06.2021		15.06.2021		16.06.2021		17.06.2021		18.06.2021		NO OF SESSIONS ATTENDED	SIGN OF THE STUDENT
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
18	811217104020	SWATHI M	IV/CSE	/	/	/	/	/	/	/	/	/	/		
19	811217104022	VASUKI M	IV/CSE	/	/	/	/	/	/	/	/	/	/		
20	811217104023	YOGESH KANNAN P H	IV/CSE	/	/	/	/	/	/	/	/	/	/	10	
21	811218104001	AISHWARYA M	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
22	811218104002	AJITHI KUMAR R	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
23	811218104003	ARAVINDH SAMY P	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
24	811218104004	ARJUN V	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
25	811218104005	DHARSHINI A	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
26	811218104006	DINESH KUMAR K	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
27	811218104007	GOWTHAM K	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
28	811218104008	HARIHARAN N	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
29	811218104009	HILMA LATHA B	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
30	811218104010	JEGATHISWARLD	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
31	811218104011	JOSHI DAYANA K	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
32	811218104012	KANAGARAJ K S	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
33	811218104013	KIRUTHIGA V	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
34	811218104014	MADHAVAN S	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
35	811218104015	MAHENDRAN S	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
36	811218104017	MUTHAIYA P	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
37	811218104018	NETHEMOZHI A	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
38	811218104019	NITHYA P	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
39	811218104020	NIVEDHA S	III/CSE	/	/	/	/	/	/	/	/	/	/	10	
40	811218104021	PRJYANGA.G	III/CSE	/	/	/	/	/	/	/	/	/	/	10	

Online Mode







# Indra Ganesan

## COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Trichirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, ISO Status Institution by UGC



Name of the Student:

Year/Sem:

AU Register Number:

Value Added Course

“Big Data Analytics”

**MCO QUESTIONS (25X4 = 100 Marks)**

**1. What is the term used for a collection of large, complex data sets that cannot be processed using traditional data processing tools?**

- a) Big Data
- b) Small Data
- c) Medium Data
- d) Mini Data

**2. Which of the following is not one of the four V's of Big Data?**

- a) Velocity
- b) Volume
- c) Variety
- d) Value

**3. What is the process of transforming structured and unstructured data into a format that can be easily analyzed?**

- a) Data Mining
- b) Data Warehousing
- c) Data Integration
- d) Data Processing

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

## COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, 2<sup>nd</sup> Status Institution by U.G.



4. Which of the following is a tool used for processing and analyzing Big Data?

- a) Hadoop
- b) MySQL
- c) PostgreSQL
- d) Oracle

5. What is the process of examining large and varied data sets to uncover hidden patterns, unknown correlations, market trends, customer preferences, and other useful information?

- a) Data Mining
- b) Data Warehousing
- c) Data Integration
- d) Data Processing

6. Which of the following is not a common challenge associated with Big Data?

- a) Data Quality
- b) Data Integration
- c) Data Privacy
- d) Data Duplication

7. Which of the following is a technique used to extract meaningful insights from data sets that are too large or complex to be processed by traditional data processing tools?

- a) Business Intelligence
- b) Machine Learning
- c) Artificial Intelligence
- d) Data Science

Dr. G. Balakrishnan, M.E., Ph.D.  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

## COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandanam, Tiruchirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, ISO 9001:2015 Certified by IAF



**8. What is the process of storing and managing data in a way that allows for efficient retrieval and analysis?**

- a) Data Warehousing
- b) Data Mining
- c) Data Integration
- d) Data Processing

**9. Which of the following is a common programming language used for Big Data processing?**


- a) C++
- b) Java
- c) Python
- d) All of the above

**10. Which of the following is a popular NoSQL database used for Big Data processing?**

- a) MySQL
- b) PostgreSQL
- c) Oracle
- d) MongoDB

**11. What is the process of combining data from multiple sources into a single, unified view?**

- a) Data Mining
- b) Data Warehousing

  
Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandanam, Tiruchy-620 012.



- c) Data Integration
- d) Data Processing

**12. What is the term used for the ability of a system to handle increasing amounts of data and traffic without compromising performance?**

- a) Scalability
- b) Reliability
- c) Availability
- d) Security

**13. What is the process of cleaning and transforming data before it is used for analysis?**

- a) Data Mining
- b) Data Warehousing
- c) Data Integration
- d) Data Preprocessing

**14. Which of the following is not a common type of data in Big Data analysis?**

- a) Structured Data
- b) Semi-Structured Data
- c) Unstructured Data
- d) Simple Data

**15. Which of the following is a method for analyzing data in which the data is split into smaller subsets and processed in parallel across multiple servers or nodes?**

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Tiruchy-620 012.



# Indra Ganesan

## COLLEGE OF ENGINEERING

Madurai Main Road (NH-456), Manikandam, Tiruchirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, 2012 Status Institution by U.G.C.



- a) Batch Processing
- b) Stream Processing
- c) MapReduce
- d) Hive

**16. What is the process of analyzing data in real-time as it is generated?**

- a) Batch Processing
- b) Stream Processing
- c) MapReduce
- d) Hive

**17. Which of the following is a popular programming language used for data analysis and machine learning?**

- a) C++
- b) Java
- c) Python
- d) All of the above

**18. Which of the following is not a common data storage technology used for Big Data processing?**

- a) Hadoop Distributed File System (HDFS)
- b) Cassandra
- c) MySQL
- d) Amazon S3

**19. What is the process of automatically categorizing or grouping data based on its characteristics or attributes?**

Dr. G. Balakrishnan, M.Sc., Ph.D.  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



- a) Clustering
- b) Classification
- c) Regression
- d) Anomaly Detection

**20. Which of the following is not a common data visualization tool used for Big Data analysis?**

- a) Tableau
- b) QlikView
- c) Microsoft Excel
- d) D3.js

**21. Which of the following is a popular open-source platform used for real-time data processing and analytics?**

- a) Apache Kafka
- b) Apache Hadoop
- c) Apache Spark
- d) Apache Storm

**22. Which of the following is a technique used for identifying patterns in data by training a model on a dataset and using it to make predictions on new data?**

- a) Data Mining
- b) Machine Learning
- c) Natural Language Processing
- d) Text Analytics

**23. Which of the following is not a common type of machine learning algorithm?**



# Indra Ganesan

## COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, 2013 Status Institution by U.G.C.



- a) Supervised Learning
- b) Unsupervised Learning
- c) Reinforcement Learning
- d) Decision Learning

**24. Which of the following is a type of machine learning algorithm in which the input data is labeled and the model is trained to make predictions on new, unlabeled data?**

- a) Supervised Learning
- b) Unsupervised Learning
- c) Reinforcement Learning
- d) All of the above

**25. Which of the following is a type of machine learning algorithm in which the input data is not labeled and the model is trained to find patterns or structure in the data?**

- a) Supervised Learning
- b) Unsupervised Learning
- c) Reinforcement Learning
- d) All of the above

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, 2013 Status Institution by UGC



## ANSWER KEY

1	A	6	D	11	C	16	B	21	D
2	D	7	B	12	A	17	C	22	B
3	C	8	A	13	D	18	C	23	D
4	A	9	D	14	D	19	A	24	A
5	A	10	D	15	C	20	C	25	B

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

VAC COORDINATOR

Name: Hemalatha. B

Register Number:

811218104009

## Big Data Analytics

1. a) Big Data ✓
2. d) Value ✓
3. c) Data Integration ✓
4. a) Hadoop ✓
5. b) Data warehouse ✓
6. d) Data Duplication ✓
7. B) Machine Learning ✓
8. A) Data warehouse ✓
9. d) All of the above ✓
10. d) MongoDB ✓
11. c) Data Integration ✓
12. A) Scalability ✓
13. D) data processing ✓
14. D) Simple Data ✓
15. c) Map Reduce. ✓

22  
25



Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 032.

Name: Growtham.c

Register Number:

811219104004

### Big Data Analytics

- 1 A Big data ✓
- 2 D. Value ✓
- 3 C Data integration ✓
- 4 A Hadoop ✓
- 5 A Data Mining ✓
- 6 D Data Duplication ✓
- 7 B Machine Learning ✓
- 8 D Data processing ✗
- 9 D All of the above ✓
- 10 D Mango DB ✓
- 11 C Data Integration ✗
- 12 A Scalability ✓
- 13 C Data Integration ✗
- 14 D Simple data ✓
- 15 C Map Reduce ✓
- 16 B Stream processing ✓
- 17 C Python ✓

21  
25

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal

Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.




# Indra Ganesan

COLLEGE OF ENGINEERING

Medurai Main Road (NH-45B), Manikandam, Trichirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
AACSB Accredited, 2017 Status Institution by UGC



  
Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

## STUDENTS MARK SHEET LIST

### VALUE ADDED COURSE

### BIG DATA ANALYTICS

S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Session Attended	Attendance Percentage (100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
1	811217104001	AARTHI J	IV/CSE	30	100	20	80	90
2	811217104002	DEEPIKA N	IV/CSE	30	83	15	60	72
3	811217104003	DHANALAKSHMI R	IV/CSE	30	100	19	76	88
4	811217104004	GOADHAR FATHIMA S	IV/CSE	30	100	22	88	94
5	811217104005	GOWTHAM RAAJ K	IV/CSE	29	92	18	72	82
6	811217104007	JEYA PRATHA A	IV/CSE	28	92	17	68	80
7	811217104008	JICKSON S	IV/CSE	28	100	18	72	86
8	811217104009	KAMATCHI V	IV/CSE	29	83	17	68	76
9	811217104010	KOKILA V	IV/CSE	29	92	16	64	78
10	811217104011	LAKSHMI PRIYA M	IV/CSE	30	92	16	64	78
11	811217104012	NAVEEN R	IV/CSE	30	100	20	80	90
12	811217104013	PANNEER SELVAM R	IV/CSE	30	92	20	80	86
13	811217104014	PRINCY DEEPA X	IV/CSE	28	100	22	88	94
14	811217104015	RAGHUL L	IV/CSE	29	92	17	68	80
15	811217104016	SALMA BANU M	IV/CSE	29	83	16	64	74
16	811217104017	SEEBIKA M	IV/CSE	30	83	16	64	74



# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Trichyappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, 2B1 Status Institution by UGC



Dr. G. Lakshminathan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% B)
				No. of Session Attended	Attendance Percentage (100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
17	811217104019	SIVA SANKARI S	IV/CSE	30	100	22	88	94
18	811217104020	SWATHI M	IV/CSE	30	92	18	72	82
19	811217104022	VASUKI M	IV/CSE	30	100	22	88	94
20	811217104023	YOGESH KANNAN P H	IV/CSE	28	100	22	88	94
21	811218104001	AISHWARYA M	III/CSE	28	92	20	80	86
22	811218104002	AJITH KUMAR R	III/CSE	28	92	19	76	84
23	811218104003	ARAVINDH SAMY P	III/CSE	29	100	20	80	90
24	811218104004	ARJUN V	III/CSE	29	83	16	64	74
25	811218104005	DHARSHINI A	III/CSE	29	83	16	64	74
26	811218104006	DINESH KUMAR K	III/CSE	30	100	22	88	94
27	811218104007	GOWTHAM K	III/CSE	30	92	18	72	82
28	811218104008	HARIHARAN N	III/CSE	30	100	22	88	94
29	811218104009	HEMA LATHA B	III/CSE	30	100	22	88	94
30	811218104010	JEGATHISWARL D	III/CSE	29	100	22	88	94
31	811218104011	JOSHI DAYANA K	III/CSE	29	92	17	68	80
32	811218104012	KANAGARAJ K S	III/CSE	29	92	19	76	84
33	811218104013	KIRUTHIGA V	III/CSE	30	92	19	76	84
34	811218104014	MADHAVAN S	III/CSE	30	100	20	80	90
35	811218104015	MAHENDRAN S	III/CSE	30	83	16	64	74
36	811218104017	MUTHAIYA P	III/CSE	28	83	16	64	74
37	811218104018	NEETHIMOZHI A	III/CSE	28	100	22	88	94
38	811218104019	NITHYA P	III/CSE	28	92	18	72	82
39	811218104020	NIVEDHA S	III/CSE	30	100	22	88	94



# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, 3B Status Institution by UGC



Dr. G. [Signature], M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A 50% of B)
				No. of Session Attended	Attendance Percentage (100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
40	811218104021	PRIYANGA.G	III/CSE	30	100	20	80	90
41	811218104022	RAMYA R	III/CSE	30	83	16	64	74
42	811218104023	SHARVESH CHARAN.S.A	III/CSE	29	92	19	76	84
43	811218104024	SATHASIVAM P	III/CSE	29	92	19	76	84
44	811218104026	SHALINI P	III/CSE	29	100	20	80	90
45	811218104027	SHANMUGANATHAN P	III/CSE	29	83	16	64	74
46	811218104028	SHEELA.S	III/CSE	29	83	16	64	74
47	811218104029	SUDHAKARAN C	III/CSE	29	100	22	88	94
48	811218104030	SUGASINLG	III/CSE	30	92	18	72	82
49	811218104031	VAISHNAVI G	III/CSE	30	92	19	76	84
50	811218104032	VIGNA SRI S	III/CSE	30	92	19	76	84
51	811218104033	VIJAYA DHARANI K	III/CSE	30	100	20	80	90
52	811218104034	VINOTHINI S	III/CSE	30	100	20	80	90
53	811218104501	SIVASANGARI C	III/CSE	30	83	16	64	74
54	811219104001	ARUN R	II/CSE	30	83	16	64	74
55	811219104002	BALAMANIKANDAPRABHU B R	II/CSE	30	100	22	88	94
56	811219104003	BHARATHI S	II/CSE	30	92	18	72	82
57	811219104004	GOWTHAM C	II/CSE	30	100	22	88	94
58	811219104005	INDHUMATHI S	II/CSE	30	100	22	88	94
59	811219104006	ISHWARYA P	II/CSE	30	100	22	88	94
60	811219104007	KALAIYARASAN V	II/CSE	29	100	20	80	90
61	811219104008	KEERTHIKA K	II/CSE	29	83	16	64	74
62	811219104009	KEERTHIKA V	II/CSE	28	83	16	64	74



# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Trichirappalli - 620 012  
Approved by AIU TE, New Delhi & Affiliated to Anna University, Chennai  
AACSB Accredited, 21<sup>st</sup> Status Institution by UGC



D. G. Datarajulu M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

S.No.	Reg.No	Student's Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A 50% of B)
				No. of Session Attended	Attendance Percentage (100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
63	811219104010	KRISHI GOWTHAM R	II/CSE	28	100	22	88	74
64	811219104011	LOGADIPA SP	II/CSE	29	100	20	80	74
65	811219104012	MOHAMED NOWSATH M	II/CSE	29	83	16	64	94
66	811219104013	MOORTHI C	II/CSE	29	100	22	88	90
67	811219104014	NANCY C	II/CSE	29	92	18	72	74
68	811219104016	PRAVEEN K	II/CSE	30	100	22	88	94
69	811219104017	RANJANA S	II/CSE	30	83	16	64	82
70	811219104018	RAVINYA K	II/CSE	30	100	22	88	94
71	811219104020	SARANYA P	II/CSE	30	92	18	72	74
72	811219104021	SUVALAKSHMI P	II/CSE	30	100	22	64	94
73	811219104022	SWEATHA B	II/CSE	30	92	18	64	82
74	811219104023	VIGNESHWARAN V	II/CSE	30	100	22	88	82
75	811219104024	VJAYALAKSHMI B	II/CSE	30	100	22	72	78
76	811219104025	VINCY SHARMILA K	II/CSE	30	92	22	88	94
77	811219104026	YATHESH M	II/CSE	29	100	20	88	86
78	811220405001	DEEPA LAKSHMI N	I/M.E(CSE)	29	100	16	88	90
79	811220405002	ISWARYA R	I/M.E(CSE)	29	83	16	80	94
80	811220405003	KARTHIGA M	I/M.E(CSE)	30	100	22	64	94
81	811220405004	KARTHIKA M	I/M.E(CSE)	30	92	20	64	82
82	811220405005	RAMALAKSHMI M	I/M.E(CSE)	30	100	16	88	82

*A. Suresh*  
VAC Coordinator

*D. Reddy*  
HoD/CSE



# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012

Approved by: AICTE, New Delhi & Affiliated to Anna University, Chennai

NAAC Accredited (2013) Status Institution by U.G.



## Report On Value Added Course

Title	BIG DATA ANALYTICS				
Resource Person:	Mr.Vivek, Project Manager AXIS V CREATIVES PVT LTD, CHENNAI				
Date of conduct from :	14.06.2021	To:	18.06.2021	Duration:	30 Hours
Organized Department	COMPUTER SCIENCE AND ENGINEERING				
Participant	CSE IV,III ,II and PG I Year	No. of Students Registered	82		
Venue:	online mode Google Meet: <a href="https://meet.google.com/14.06.2021to18.06.2021">meet.google.com/14.06.2021to18.06.2021</a>				

**Outcome of Value Added Course (VAC): At the end of the Course, Students can able to**

- Know the fundamentals of MACHINE learning and its architecture.
- Discuss Module, controllers, Events
- Apply inbuilt and custom pipes
- Develop object-oriented Ruby programs using classes and objects
- Design forms and Modules in Machine Learning
- Explain Services, Animations, Routing.

### Assessment Process

- Students, who are securing **more than 60% on total score** and secured more than 75% in attendance is eligible to receive the certificate for the VAC course conducted
- Total Score =  $(0.5 * \text{Attendance in VAC out of 100 percentage} + 0.5 * \text{Test mark in VAC out of 100 marks})$

  
VAC Coordinator

  
HoD/CSE

  
Principal

  
Dr. G. Balakrishnan, M.E., Ph.D.  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



# Indra Ganesan

COLLEGE OF ENGINEERING

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012  
Approved by AKTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, 2B Status Institution by UGC



## Report On Value Added Course

Title	<b>BIG DATA ANALYTICS</b>		
Resource Person:	Mr.Vivek, Project Manager AXIS V CREATIVES PVT LTD, CHENNAI		
Date of conduct from :	14.06.2021	To:	18.06.2021
		Duration:	30 Hours
Organized Department	<b>COMPUTER SCIENCE AND ENGINEERING</b>		
Participant	CSE IV,III ,II and PG I Year	No. of Students Registered	82
Venue:	online mode Google Meet: <a href="https://meet.google.com/14.06.2021to18.06.2021">meet.google.com/14.06.2021to18.06.2021</a>		

### Sample Photo



*A. Shree*  
VAC Coordinator

*D. Redd*  
HoD/CSE

*[Signature]*  
Principal

*[Signature]*

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.



**Indra Ganesan**  
**COLLEGE OF ENGINEERING**

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, ISO 9001:2015 Certified Institution by I.I.C



## CERTIFICATE OF PARTICIPATION

This is to certify that Mr/Ms. .... **GOWTHAM RAAJ K** ..... of  
..... **IV.YEAR.CSE** ..... has successfully completed the Value Added Course on **BIG  
DATA ANALYTICS** organized by Department of Computer Science and Engineering and IQAC of  
our Institution in Association with **AXIS V CREATIVES PVT LTD** from 14th Dec 2021 TO  
18th Dec 2021 during the Academic Year 2020-2021.

Mr. C. Vivek,  
Project Manager,  
AXIS V Creatives Pvt, Ltd

Dr. G. Balakrishnan, M.E., Ph.D.,  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012.

Principal  
IGCE



**Indra Ganesan**

**COLLEGE OF ENGINEERING**

Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

NAAC Accredited, 2021 Status Institution by UGC



## CERTIFICATE OF PARTICIPATION

This is to certify that Mr/Ms. .... **NEETHIMOZHI A** ..... of  
..... **III YEAR CSE** ..... has successfully completed the Value Added Course on **BIG  
DATA ANALYTICS** organized by Department of Computer Science and Engineering and IQAC of  
our Institution in Association with **AXIS V CREATIVES PVT LTD** from 14th Dec 2021 TO  
18th Dec 2021 during the Academic Year 2020-2021.

**Mr. C. Vivek,**  
Project Manager,  
**AXIS V Creatives Pvt, Ltd**

**Dr. G. Balakrishnan, M.E., Ph.D.**  
Principal  
Indra Ganesan College of Engineering  
IG Valley, Madurai Main Road  
Manikandam, Trichy-620 012

**Principal**  
**IGCE**



**Indra Ganesan**  
**COLLEGE OF ENGINEERING**  
Madurai Main Road (NH-45B), Manikandan, Trichirappalli - 620 012  
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
NAAC Accredited, 3B Status Institution by UGC



## CERTIFICATE OF PARTICIPATION

This is to certify that Mr/Ms. .... **KRISHI GOWTHAM.R** ..... of  
..... **II.YEAR.CSE** ..... has successfully completed the Value Added Course on **BIG  
DATA ANALYTICS** organized by Department of Computer Science and Engineering and IQAC of  
our Institution in Association with **AXIS V CREATIVES PVT LTD** from 14th Dec 2021 TO  
18th Dec 2021 during the Academic Year 2020-2021.

**Mr. C. Vivek,**  
**Project Manager,**  
**AXIS V Creatives Pvt, Ltd**

**Dr. G. Balakrishnan, M.E., Ph.D.,**  
**Principal**  
**Indra Ganesan College of Engineering**  
**IG Valley, Madurai Main Road**  
**Manikandan, Trichy-620 012.**

**Principal**  
**IGCE**