



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 – 1

CURRICULAR ASPECTS

SUBMITTED BY

IQAC

INTERNAL QUALITY ASSURANCE CELL

INDRA GANESAN COLLEGE OF ENGINEERING





DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2020-2021 / EVEN SEMESTER

1.2 Academic Flexibility (30)

1.2.1 Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc. (where the students of the institution have enrolled and successfully completed during the last five years)

AND

1.2.2 Percentage of students enrolled in Certificate/ Value added courses and also completed online courses of MOOCs, SWAYAM, NPTEL etc. as against the total number of students during the last five years

VAC Title:	BIM- Building Information and Modelling				
Resource Person:	Mr.M.Mohamed anas, Assistant Engineer, TM Design & Constructions				
Date of conduct from:	09.08.2021	To:	13.08.2021	Duration:	30 Hours
Organized Department:	DEPARTMENT OF CIVIL ENGINEERING				
Participant Year:	CIVIL II ,III, IV	Semester:	ODD	No. of Students Registered:	25
Venue:	https://meet.google.com/ssd-tdmvs-gbm (Google Meet)				

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Department of CIVIL ENGINEERING
Academic Year 2020-2021 – Even Semester

DATE: 04.08.2021

Department of Civil Engineering and IQAC of IGCE in association with **TM Design & Constructions** is going to organize Value Added Course for all Second, Third and Final year students on “**BIM- Building Information and Modeling**” from 09.08.21 to 13.08.21, though, <https://meet.google.com/ssd-tdmvs-gbm> (Google meet link). Certificates will be issued to the eligible participants at the end of the Course.

Resource Person Detail	Mr.M.Mohamedanas, Assistant Engineer, TM Design & Constructions
Venue	https://meet.google.com/ssd-tdmvs-gbm (Google Meet)


HOD/CIVIL


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


Principal

Cc:

- Principal Table
- IQAC Co-Ordinator
- HoD/ Civil
- Class In charges - II, III & IV-Year
- II, III & IV-Year Civil Students
- Office File
- Notice Board



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Value Added Course on "BIM-Building Information Technology"

SYLLABUS

S.NO	TOPIC COVERED	DURATION (in hours)	DATE
1	Surveying and introduction in surveying	3	09-08-2021
2	Plane and geodetic surveying	3	09-08-2021
3	Principles of surveying	3	10-08-2021
4	Advanced technology in surveying	3	11-08-2021
5	Drone technology	3	11-08-2021
6	Lidar technology	3	12-08-2021
7	Drone to map software	3	12-08-2021
8	MicroStation software	3	12-08-2021
9	Arc GIS software	3	13-08-2021
10	GPS surveying (Excluding Exam)	3	13-08-2021
Total Hours		30	-

G. Bheer
VAC Coordinator

[Signature]
Dr. G. Balakrishnan, M.E., Ph.D.,
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[Signature]
HOD/CIVIL



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Value Added Course on "BIM-Building Information Technology"

STUDENTS PARTICIPATION LIST

S.No.	Reg No	Student Name	Year/ Branch
1	811217103001	AISHWARIYA.P	IV/ CIVIL
2	811217103002	AKASH.S	IV/ CIVIL
3	811217103003	AROCKIA RENALDO.J	IV/ CIVIL
4	811217103004	AVINASH KUMAR.R	IV/ CIVIL
5	811217103005	BALAJI.S	IV/ CIVIL
6	811217103006	BALASUBRAMANLR	IV/ CIVIL
7	811217103007	DEEPAN.S.K	IV/ CIVIL
8	811217103008	GAYATHRLA	IV/ CIVIL
9	811217103009	KOKILA.P	IV/ CIVIL
10	811217103010	MANIKANDAN.G	IV/ CIVIL
11	811217103011	MOUNIKA.M	IV/ CIVIL
12	811217103012	NAVANEETHAN KRISHNAN.K	IV/ CIVIL
13	811217103013	PALANIYAPPAN.N	IV/ CIVIL
14	811217103014	SALEEM KHAN.S	IV/ CIVIL
15	811217103015	SATHISH KUMAR.S	IV/ CIVIL
16	811217103016	THAMARAI SELVI.K	IV/ CIVIL
17	811217103301	ARUN PRASATH R	IV/ CIVIL
18	811217103302	JOEL FERNANDEZ.R	IV/ CIVIL
19	811217103303	SUMITHIRA.R	IV/ CIVIL
20	811217103304	THIRUPATHI RAJA G. Dr. G. Balakrishnan, M.E., Ph.D., Principal	IV/ CIVIL

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S.No.	Reg No	Name	Year/Branch
21	811218103001	AKASH J	III/ CIVIL
22	811218103002	M. MAHENDRAN	III/ CIVIL
23	811218103003	S MUSARAF ALI	III/ CIVIL
24	811218103004	PRABU J	III/ CIVIL

S.No.	Reg No	Name	Year/Branch
25	811219103002	R.VIGNESH	II/CIVIL

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

Principal

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Manikandam, Trichy-620 012.

VAC Coordinator

HOD/CIVIL



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REPORT ON VALUE ADDED COURSE

Title:

"Safety in construction"

Resource Person:

Mr.M.Mohamed anas,
Assistant Engineer,
TM Design & Constructions

Date of conduct from:

09.08.21

To:

13.08.21

Duration:

30 Hours

Organized Department:

CIVIL ENGINEERING

Participant Year:

2, 3, 4

Semester:

ODD

No. of Students Registered:

25

Venue:

<https://meet.google.com/ssd-tdmvs-gbm> (Google meet link)

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

- Impact knowledge on the usage of basic surveying instruments
- Able to use levelling instruments in surveying operation
- Able to use total station and electromagnetic distance measurement instruments
- Able to prepare planimetric maps

Assessment Process

Students, who are securing more than 70% on total score and secured more than 75% in attendance is eligible to receive the certificate for the VAC course conducted.

Total Score = $(0.5 * \text{Attendance in VAC out of 100 percentage} + 0.5 * \text{Test mark in VAC out of 100 marks})$.


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VAC Coordinator


Principal



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REPORT ON VALUE ADDED COURSE (SAMPLE PHOTOS)

Title:	"Safety in construction"				
Resource Person:	Mr.M.Mohamed anas, Assistant Engineer, TM Design & Constructions		Dr. G. Balakrishnan, M.E., Ph.D., Principal Indra Ganesan College of Engineering IG Valley, Madurai Main Road Manikandam, Trichy-620 012		
Date of conduct from:	09.08.21	To:	13.08.21	Duration:	30 Hours
Organized Department:	CIVIL ENGINEERING				
Participant Year:	2, 3, 4	Semester:	EVEN	No. of Students Registered:	25
Venue:	https://meet.google.com/ssd-tdmvs-gbm (Google meet link)				



G. Bheji
VAC Coordinator

S. Vasanth
HoD/CIVIL

[Signature]
Principal



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Department of Civil engineering

STUDENTS ATTENDANCE LIST Value Added Course- BIM

S.No.	Reg No	Name	Year/ Branch	09.08.21		10.08.21		11.08.21		12.08.21		13.08.21		NO OF SESSIONS ATTENDED	SIGN OF THE STUDENT
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
1	811217103001	AISHWARIYA.P	IV/CIVIL	P	P	P	P	P	P	P	P	P	P	10	ONLINE MODE
2	811217103002	AKASH.S	IV/CIVIL	P	P	P	P	P	P	P	P	P	P	10	
3	811217103003	AROCKIA RENALDO.J	IV/CIVIL	P	P	P	P	P	P	P	P	P	P	10	
4	811217103004	AVINASH KUMAR.R	IV/CIVIL	P	P	P	a	P	P	P	P	P	P	9	
5	811217103005	BALAJI.S	IV/CIVIL	P	P	P	P	P	P	a	P	P	P	9	
6	811217103006	BALASUBRAMANLR	IV/CIVIL	P	P	P	P	P	P	P	P	P	P	10	
7	811217103007	DEEPAN.S.K	IV/CIVIL	P	P	P	a	P	P	P	P	P	P	9	
8	811217103008	GAYATHRI.A	IV/CIVIL	P	P	P	P	P	P	P	P	P	P	10	
9	811217103009	KOKILA.P	IV/CIVIL	P	P	P	P	a	P	P	P	P	P	9	
10	811217103010	MANIKANDAN.G	IV/CIVIL	P	P	P	P	P	P	P	P	P	P	10	
11	811217103011	MOUNIKA.M	IV/CIVIL	P	P	P	P	P	P	P	P	P	P	10	
12	811217103012	NAVANEETHAN KRISHNAN.K	IV/CIVIL	P	P	P	P	P	P	P	P	P	P	10	
13	811217103013	PALANIYAPPAN.N	IV/CIVIL	P	P	a	P	P	P	P	P	P	P	9	
14	811217103014	SALEEM KHAN.S	IV/CIVIL	P	P	P	a	P	P	P	P	P	P	9	
15	811217103015	SATHISH KUMAR.S	IV/CIVIL	P	P	P	P	P	P	P	P	P	P	10	

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Department of Civil engineering

S.No.	Reg No	Name	Year/ Branch	09.08.21		10.08.21		11.08.21		12.08.21		13.02.21		NO OF SESSIONS ATTENDED	SIGN OF THE STUDENT
				FN	AN	FN	AN	FN	AN	FN	AN	FN	AN		
16	811217103016	THAMARAI SELVI.K	IV/CIVIL	P	P	P	P	P	P	P	P	P	P	10	ONLINE MODE
17	811217103301	ARUN PRASATH R	IV/CIVIL	P	P	P	P	P	P	P	P	P	P	10	
18	811217103302	JOEL FERNANDEZ.R	IV/CIVIL	a	P	P	P	P	P	P	P	P	P	9	
19	811217103303	SUMITHIRA.R	IV/CIVIL	P	P	P	P	P	a	P	P	P	P	9	
20	811217103304	THIRUPATHI RAJA.G	IV/CIVIL	P	P	P	P	a	P	P	P	P	P	9	
1	811218103001	AKASH J	III/CIVIL	P	P	P	a	P	P	P	P	P	P	9	
2	811218103002	M. MAHENDRAN	III/CIVIL	P	P	P	P	P	P	P	P	P	P	10	
3	811218103003	S MUSARAF ALI	III/CIVIL	P	P	P	P	P	P	P	P	P	P	10	
4	811218103004	PRABU J	III/CIVIL	P	P	P	P	P	P	P	P	P	P	10	
1	811219103002	R.VIGNESH	II/CIVIL	P	P	P	P	P	P	P	P	P	P	10	


VAC Coordinator

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HoD/ CIVIL



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Name of the Student:

Year/Sem:

AU Register Number:

Value Added Course on "Building information modelling"

MCO QUESTIONS (25X4 = 100 Marks)

1.

Which of the following is a key benefit of using BIM in construction projects?

- Improved collaboration and communication between team members
- Faster completion of construction projects
- Lower construction costs
- All of the above

2.

What is clash detection in BIM?

- The process of identifying inconsistencies in construction drawings
- The process of identifying conflicts between different 3D models
- The process of identifying issues with the construction schedule
- The process of identifying problems with the construction budget

3.

What is the difference between LOD 100 and LOD 500 in BIM?

- LOD 100 provides the most detailed information while LOD 500 provides the least detailed information
- LOD 500 provides the most detailed information while LOD 100 provides the least detailed information
- There is no difference between LOD 100 and LOD 500
- LOD 100 and LOD 500 refer to different types of information in BIM

4.

Which of the following is not a software commonly used in BIM coordination?

- Revit
- Navisworks
- AutoCAD

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SketchUp

5.

What is the purpose of a COBie file in BIM?

To provide a list of materials and equipment needed for construction

- To provide a record of construction change orders
- To provide a standardized format for sharing construction information
- To provide a schedule for construction activities

6.

What is the purpose of a BIM Execution Plan (BEP)?

- To outline the scope of a construction project
- To provide a schedule for construction activities
- To define the BIM processes and standards to be used throughout a construction project
- To identify potential conflicts between different 3D models

7.

What is the purpose of a clash report in BIM?

- To identify inconsistencies in construction drawings
- To identify conflicts between different 3D models
- To identify issues with the construction schedule
- To identify problems with the construction budget

8.

What is the purpose of a BIM model coordination meeting?

- To review and resolve clashes between different 3D models
- To review and approve construction change orders
- To review and approve construction schedules
- To review and approve construction budgets

9.

Which of the following is not a BIM Level of Development (LOD)?

- LOD 100
- LOD 300
- LOD 400
- LOD 600

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10.

Which of the following is not a benefit of using BIM in design?

- Improved visualization of design concepts
- Improved collaboration among team members
- Improved accuracy of construction cost estimates
- Reduced construction time

11.

What is the purpose of a BIM execution team?

- To oversee the BIM process and ensure adherence to project standards
- To provide construction schedule updates to stakeholders
- To review and approve construction change orders
- To manage the construction budget

12.

Which of the following is not a BIM software feature commonly used in model coordination?

Clash detection

- 4D scheduling
- Visualization tools
- Cost estimating tools

13.


What is a BIM object?

- A 2D drawing of a construction component
- A 3D model of a construction component with associated data
- A list of construction specifications
- A schedule of construction activities

14.

Which of the following is not a common BIM file format?

- IFC
- COBie
- DWG
- BIMX


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15.

Which of the following is a key benefit of using BIM in construction project scheduling?

- Which of the following is a key benefit of using BIM in construction project scheduling?
- Increased accuracy of the construction schedule
- Reduced construction costs
- Improved collaboration among team members

16.

What is the difference between a BIM model and a CAD model?

- A BIM model includes construction information beyond just 3D geometry
- A CAD model is more detailed than a BIM model
- There is no difference between a BIM model and a CAD model
- A BIM model is only used for visualization purposes, while a CAD model is used for construction documentation

17.

What is the purpose of a BIM 360 platform?

- To manage and share construction information in a cloud-based environment
- To provide access to CAD software
- To provide access to construction estimating software
- To provide access to construction scheduling software

18.


What is the purpose of a BIM model review?

- To identify potential conflicts between different 3D models
- To approve construction change orders
- To approve construction schedules
- To approve construction budgets

19.

Which of the following is not a BIM software commonly used in design?

- Revit
- AutoCAD
- Rhino
- Navisworks


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20.

What is the purpose of a BIM coordinator?

- To manage and oversee the BIM process throughout a construction project
- To manage and oversee the construction schedule
- To manage and oversee the construction budget
- To manage and oversee the construction change order process

21.

What is the purpose of a BIM 4D schedule?

- To provide a detailed list of construction activities
- To provide a 3D model of the construction project
- To link the construction schedule with the 3D model
- To provide a list of materials and equipment needed for construction

22.

What is the purpose of a BIM coordination plan?

- To outline the scope of a construction project
- To provide a schedule for construction activities
- To define the BIM processes and standards to be used throughout a construction project
- To identify potential conflicts between different 3D models

23.

What is the difference between BIM and VDC?

- BIM is focused on design while VDC is focused on construction
- BIM is focused on construction while VDC is focused on design
- BIM and VDC are the same thing
- BIM and VDC are not related to each other

24.

What is the purpose of a BIM model validation?

- To ensure that the BIM model meets the required standards and specifications
- To approve construction change orders
- To approve construction schedules
- To approve construction budgets

25.

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Which of the following is a benefit of using BIM in facility management?

- Improved energy efficiency
- Reduced maintenance costs
- Improved occupant comfort
- All of the above

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Value Added Course on BIM

ANSWER KEY

1	b	6	d	11	c	16	d	21	b
2	d	7	b	12	d	17	b	22	c
3	b	8	a	13	b	18	a	23	d
4	c	9	c	14	c	19	b	24	b
5	a	10	a	15	b	20	a	25	b

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13/5/2021

KOKILA.P

811217103009

IV - CIVIL

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20
25

1. b) Faster completion of construction projects
2. d) The process of identification problems with the construction budget
3. b) LOD 500 provides the most detailed information while LOD 100 provides the
4. a) Revit least detailed information
5. a) To provide a record of construction change orders.
6. d) To identify potential conflicts between different 3D models.
7. b) To identify conflicts between different 3D models.
8. a) To review and resolve clashes between different 3D models
9. c) LOD 400
10. d) Reduced construction time
11. c) To review and approve construction change orders.
12. d) Cost estimation tools
12. b) A 3D model of a construction component with associated data

14. c) DWG
15. b) Increased accuracy of the construction schedule
16. b) A CAD model is more detailed than a BIM model.
17. b) To provide access to CAD software.
18. a) To identify potential conflicts between different 3D models
19. c) Rhinoceros
20. a) To manage and oversee the BIM process throughout a construction project.
21. b) To provide a 3D model of the construction project
22. c) To define the BIM process and standards to be used throughout a construction project
23. d) BIM & VDC are not related to each other
24. b) To approve construction change orders
25. b) Reduced maintenance work

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3/8/2021

2
25

811218103002

Mahendran. M
3rd civil.

1. b) Faster completion of construction projects.
2. d) The process of identifying problems with the construction budget.
3. b) LOD 500 provides the most detailed information while LOD 100 provides the least.
4. c) Auto CAD
5. a) To provide a record of construction change orders.
6. d) To identify potential conflicts b/w different 3D models.
7. b) To identify conflicts b/w different 3D models.
8. a) To review & approve construction budgets.
9. c) LOD 400
10. a) Improved visualization of design concepts.
11. d) To manage the construction budget.
12. d) Cost estimating tools.

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13) A 3D model of a construction component with associated data.

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14) a) 4D/5D

15) b) Increased accuracy of the construction schedule.

16) b) A CAD model is more detailed than a BIM model.

17) b) BIM provide access to CAD software.

18) a) BIM identify potential conflicts b/w different 3D models.

19) b) Auto CAD.

20) a) BIM manage & oversee the BIM process throughout a construction project.

21) a) BIM provide a detailed list the activities.

22) c) Define the BIM processes & standards to be used throughout a construction project.

23) a) BIM and VDO are the same thing.

24) b) BIM approve construction change orders.

25) b) Reduced maintenance costs.

II Year Civil

Vignesh

811219103002

Mark-19

19
25

12/8/2021

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

Principal

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- 1) b) faster completion of construction projects
- 2) d) The process of identifying problems with the construction budget
- x 3) c) There is no difference between LOD 400 and LOD 500
- 4) c) Auto CAD
- 5) a) To provide a record of construction change orders.
- 6) d) To identify potential conflicts between different 3D models
- x 7) a) To identify clashes between different 3D models.
- 8) a) To review and approve construction change orders.
- 9) c) LOD 400
- x 10) d) Reduced construction time
- 11) c) To review and approve construction change orders.
- 12) d) Cost estimation tools.
- 13) b) A 3D model of a construction component with associated data.
- 14) c) DWG
- 15) b) Increased accuracy of the construction schedule
- x 16) a) A CAD model is more detailed than a BIM model
- 17) b) To provide access to CAD software.
- 18) a) To identify potential conflicts between 3D models
- 19) b) Auto CAD
- 20) a) To manage and oversee the BIM process throughout a construction project

- 21) b) To provide 3D model of the construction project
- 22) c) To define the BIM process and standard to be
- 23) d) BIM and VDC are not related to each other
- 24) b) To Approve construction schedules
- 25) b) All all the above



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STUDENTS PARTICIPATION LIST

MARK SHEET FOR VALUE ADDED COURSE PROGRAM - BIM

S.No.	Reg No	Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Session Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
1	811217103001	AISHWARIYA.P	IV/CIVIL	30	100	21	84	92
2	811217103002	AKASH.S	IV/CIVIL	30	100	22	88	94
3	811217103003	AROCKIA RENALDO.J	IV/CIVIL	30	100	20	80	90
4	811217103004	AVINASH KUMAR.R	IV/CIVIL	27	90	21	84	87
5	811217103005	BALAJI.S	IV/CIVIL	27	90	19	76	83
6	811217103006	BALASUBRAMANI.R	IV/CIVIL	30	100	20	80	90
7	811217103007	DEEPAN.S.K	IV/CIVIL	27	90	21	84	87
8	811217103008	GAYATHRI.A	IV/CIVIL	30	100	21	84	92
9	811217103009	KOKILA.P	IV/CIVIL	27	90	20	80	85
10	811217103010	MANIKANDAN.G	IV/CIVIL	30	100	21	84	92
11	811217103011	MOUNIKA.M	IV/CIVIL	30	100	22	88	94
12	811217103012	NAVANEETHAN KRISHNAN.K	IV/CIVIL	30	100	20	80	90

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S.No.	Reg No	Name	Year/ Branch	Attendance Details		VAC-MCQ TEST		OVERALL MARK(100) (50% of A + 50% of B)
				No. of Session Attended	Attendance Mark(100) (A)	No of Correct Answers	MCQ Mark(100) (B)	
13	811217103013	PALANIYAPPAN.N	IV/CIVIL	27	90	21	84	87
14	811217103014	SALEEM KHAN.S	IV/CIVIL	27	90	19	76	83
15	811217103015	SATHISH KUMAR.S	IV/CIVIL	30	100	21	84	92
16	811217103016	THAMARAI SELVI.K	IV/CIVIL	30	100	22	88	94
17	811217103301	ARUN PRASATH R	IV/CIVIL	30	100	20	80	90
18	811217103302	JOEL FERNANDEZ.R	IV/CIVIL	27	90	21	84	87
19	811217103303	SUMITHIRA.R	IV/CIVIL	27	90	19	76	83
20	811217103304	THIRUPATHI RAJA.G	IV/CIVIL	27	90	19	76	83
1	811218103001	AKASH J	III/CIVIL	27	90	20	80	85
2	811218103002	M. MAHENDRAN	III/CIVIL	30	100	21	84	92
3	811218103003	S MUSARAF ALI	III/CIVIL	30	100	22	88	94
4	811218103004	PRABU J	III/CIVIL	30	100	20	80	90
1	811219103002	R.VIGNESH	II/CIVIL	27	90	19	76	83

G. Ramesh
VAC Coordinator

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S. Siva Sai
HoB/ CIVIL



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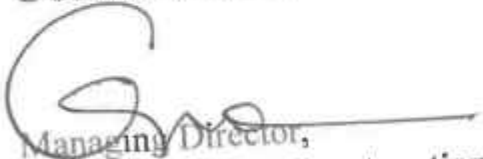
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