



SRI BHARATHI

ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)
Kaikkurichi, Pudukkottai -622 303

www.sbec.edu.in

NAAC DOCUMENTS



Quality Indicator Frame Work

Criterion – 2

Teaching-Learning and Evaluation

Submitted by

IQAC

Internal Quality Assurance Cell

Sri Bharathi Engineering College for Women



Criteria 2

Teaching-Learning and Evaluation

350

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

2019-2020

**PARTICIPATIVE LEARNING
CIVIL ENGINEERING**

| Activity | Number of Students attended | Page No. |
|--------------------------------|-----------------------------|----------|
| Value Added Course (VAC) | 54 | 3 |
| TOTAL STUDENTS ATTENDED | 54 | - |



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Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

| | | |
|-------------------|---|------------|
| Criteria 2 | Teaching-Learning and Evaluation | 350 |
|-------------------|---|------------|

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

2019-2020

CIVIL ENGINEERING

PARTICIPATIVE LEARNING

VALUE ADDED COURSE



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Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 / ODD SEMESTER

Date: 19/06/2019

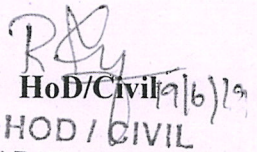
DEPARTMENT CIRCULAR

It is informed that Value added course organized by Department of Civil Engineering on “Corrosion of RC structures” for all Second, Third & Final year Civil Engineering students in association with T.R.M Constructions from 24.6.2019 to 28.6.2019. Certificates will be issued to the eligible participants at the end of the Course. The following resource person will handle the session.

| S.No. | Name of the Course | Resource Person |
|-------|----------------------------|---|
| 1. | Corrosion of RC structures | Er.T.Muruganandham B.E., Licensed Building Surveyor and Consultant, TRM Constructions, Trichy. |

Cc:

- Principal's Office
- IQAC Coordinator
- Class In charges - II, III & IV-year of Civil Engineering
- II, III & IV-year Civil Engineering Students
- Notice Board


HoD/Civil
HOD / CIVIL

SRI BHARATHI ENGINEER
COLLEGE FOR WOMEN
KAIKKURICHI,
PUDUKKOTTAI - 622 303



Dr. S. THILAGAVATHI M.E., Ph.D.,
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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 / ODD SEMESTER

Value Added Course on “Corrosion of RC structures”

SYLLABUS

| S.NO | TOPIC COVERED | DURATION (in hours) | DATE FN/AN |
|-------------|--|------------------------|---------------|
| 1 | Impact of corrosion on society | 3 | 24.06.2019 |
| 2 | Corrosion, pH, potential, reference electrode, potential-pH diagram | 3 | 24.06.2019 |
| 3 | Corrosion of steel in concrete | 3 | 25.06.2019 |
| 4 | Actions from aggressive species chloride, carbon dioxide, sulphate, soft water action | 3 | 25.06.2019 |
| 5 | Type of reinforcement corrosion | 3 | 26.06.2019 |
| 6 | How to control and prevent concrete corrosion | 3 | 26.06.2019 |
| 7 | Determine the Rate of Corrosion Damage | 3 | 27.06.2019 |
| 8 | Indirect Methods for Corrosion Testing and Monitoring | 3 | 27.06.2019 |
| 9 | Direct Methods for Corrosion Testing and Monitoring | 3 | 28.06.2019 |
| 10 | Theory of corrosion | 3 | 28.06.2019 |
| Total Hours | | 30 | |

VAC Coordinator

Dr. S.THILAGAVATHI M.E., Ph.D.,

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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 (ODD SEM)

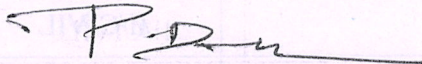
STUDENTS PARTICIPATION LIST-VAC PROGRAM

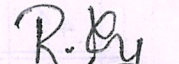
CORROSION OF RC STRUCTURES

| S.NO | REG.NO | NAME OF THE STUDENT | YEAR/BRANCH |
|------|--------------|---------------------|-------------|
| 1 | 912618103003 | MAHESHWARI V | II/CIVIL |
| 2 | 912618103005 | MEENACHI K | II/CIVIL |
| 3 | 912618103008 | SATHYA M | II/CIVIL |
| 4 | 912618103009 | SRIVIDHYA S | II/CIVIL |
| 5 | 912618103010 | UMAMAHESWARI K | II/CIVIL |
| 6 | 912617103001 | CHANDRIKA C | III/CIVIL |
| 7 | 912617103002 | DHESIKAPARTHI D | III/CIVIL |
| 8 | 912617103003 | KARTHIKA K | III/CIVIL |
| 9 | 912617103004 | KASTHURI K | III/CIVIL |
| 10 | 912617103005 | MONIKA K | III/CIVIL |
| 11 | 912617103006 | MUTHUMEENA P | III/CIVIL |
| 12 | 912617103007 | POTHUMPEN A | III/CIVIL |
| 13 | 912617103008 | PRIYADHARSHINI S | III/CIVIL |
| 14 | 912617103009 | RAJESWARI J | III/CIVIL |
| 15 | 912617103010 | SIVAPRIYA S | III/CIVIL |
| 16 | 912617103701 | LAKSHMI A | III/CIVIL |
| 17 | 912616103001 | AARTHI G | IV/CIVIL |
| 18 | 912616103002 | ANANTHI S | IV/CIVIL |

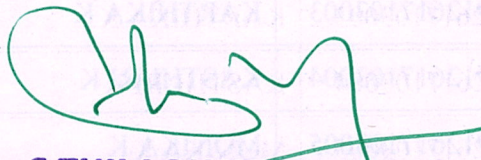

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| | | | |
|----|--------------|-----------------|----------|
| 19 | 912616103004 | KANIMOZHI P | IV/CIVIL |
| 20 | 912616103005 | LAVANYA K | IV/CIVIL |
| 21 | 912616103006 | MASILAMANI M | IV/CIVIL |
| 22 | 912616103007 | MENAKA R | IV/CIVIL |
| 23 | 912616103008 | PRAVEENA M | IV/CIVIL |
| 24 | 912616103301 | GOWSIKA N | IV/CIVIL |
| 25 | 912616103302 | KALISWARI M | IV/CIVIL |
| 26 | 912616103303 | MAHESWARI M | IV/CIVIL |
| 27 | 912616103304 | SARATHAPRITHA S | IV/CIVIL |


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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 (ODD SEM)

ATTENDANCE SHEET FOR VALUE ADDED COURSE- CORROSION OF RC STRUCTURES

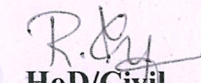
| NO | REG.NO | NAME OF THE STUDENT | YEAR/ BRANCH | DATE: 24.06.19 | | DATE: 25.06.19 | | DATE: 26.06.19 | | DATE: 27.06.19 | | DATE: 28.06.19 | | NO OF SESSIONS ATTENDED | SIGNATURE OF THE STUDENT |
|----|--------------|---------------------|-----------------|-------------------|----|-------------------|----|-------------------|----|-------------------|----|-------------------|----|-------------------------------|--------------------------------|
| | | | | FN | AN | FN | AN | FN | AN | FN | AN | FN | AN | | |
| 1 | 912618103003 | MAHESHWARI V | II/CIVIL | / | / | / | a | / | / | / | a | / | / | 8 | Meenchi |
| 2 | 912618103005 | MEENACHI K | II/CIVIL | / | / | / | / | / | / | / | / | / | a | 9 | Meenatchi |
| 3 | 912618103008 | SATHYA M | II/CIVIL | / | a | / | / | / | / | / | / | / | / | 9 | Sathya |
| 4 | 912618103009 | SRIVIDHYA S | II/CIVIL | / | / | / | / | / | / | / | / | / | / | 10 | Prinny |
| 5 | 912618103010 | UMAMAHESWARI K | II/CIVIL | / | / | / | / | / | a | / | / | / | / | 9 | Umamachi |
| 6 | 912617103001 | CHANDRIKA C | III/CIVIL | / | / | / | / | / | / | / | a | / | / | 9 | C. Chandri |
| 7 | 912617103002 | DHESIKAPARTHI D | III/CIVIL | / | / | / | / | / | / | / | / | / | / | 10 | D. Dhesikaparthi |
| 8 | 912617103003 | KARTHIKA K | III/CIVIL | / | / | / | / | / | / | / | / | / | / | 10 | Karthika K |
| 9 | 912617103004 | KASTHURI K | III/CIVIL | / | a | / | / | / | / | / | / | / | / | 9 | Kasthuri - K |
| 10 | 912617103005 | MONIKA K | III/CIVIL | / | / | / | / | / | / | / | / | / | / | 10 | Monika K |
| 11 | 912617103006 | MUTHUMEENA P | III/CIVIL | / | / | / | / | / | / | / | / | / | / | 10 | Muthumeena P |

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| | | | | | | | | | | | | | | | |
|----|--------------|------------------|-----------|---|---|---|---|---|---|---|---|---|---|----|----------------|
| 12 | 912617103007 | POTHUMPEN A | III/CIVIL | 1 | a | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 | Pothumpen |
| 13 | 912617103008 | PRIYADHARSHINI S | III/CIVIL | 1 | 1 | 1 | a | 1 | 1 | 1 | a | 1 | 1 | 8 | Priya S |
| 14 | 912617103009 | RAJESWARI J | III/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | Rajeshwari J |
| 15 | 912617103010 | SIVAPRIYA S | III/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | S. Sivapriya |
| 16 | 912617103701 | LAKSHMI A | III/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | Lakshmi A |
| 17 | 912616103001 | AARTHI G | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | a | 1 | 9 | Aarthi G |
| 18 | 912616103002 | ANANTHI S | IV/CIVIL | 1 | 1 | 1 | 1 | a | 1 | a | 1 | 1 | 1 | 8 | Ananthi S |
| 19 | 912616103004 | KANIMOZHI P | IV/CIVIL | 1 | 1 | 1 | a | 1 | 1 | 1 | 1 | 1 | 1 | 9 | Kanimozhi P |
| 20 | 912616103005 | LAVANYA K | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | Lavanya K |
| 21 | 912616103006 | MASILAMANI M | IV/CIVIL | 1 | a | 1 | 1 | 1 | 1 | a | 1 | 1 | 1 | 8 | Masilamani M |
| 22 | 912616103007 | MENAKA R | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | Menaka R |
| 23 | 912616103008 | PRAVEENA M | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | Praveena M |
| 24 | 912616103301 | GOWSIKA N | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | a | 1 | 1 | 1 | 1 | 9 | Gowsika N |
| 25 | 912616103302 | KALISWARI M | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 | Kaliswari M |
| 26 | 912616103303 | MAHESWARI M | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | a | 1 | 9 | Maheswari M |
| 27 | 912616103304 | SARATHAPRITHA S | IV/CIVIL | 1 | a | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 | Sarathapriya S |


VAC Coordinator


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Report on Value Added Course

| | | | | | |
|------------------------|---|-----------|------------|------------------------------|----------|
| Title: | Corrosion of RC structures | | | | |
| Resource Person: | Er.T.Muruganandham B.E., Licensed Building Surveyor and Consultant, TRM Constructions, Trichy. | | | | |
| Date of conduct from : | 24.06.2019 | To: | 28.06.2019 | Duration: | 30 Hours |
| Organized Department : | CIVIL ENGINEERING | | | | |
| Participant Year: | 2, 3, 4 | Semester: | ODD | No. of Students Registered : | 27 |
| Venue: | First Floor-Lecture Hall:30 | | | | |

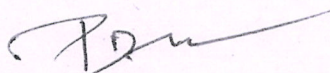
Outcome of Value Added Course (VAC): Students are able to

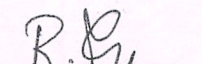
- Know the characteristics of cement and concrete
- Understand the concrete deterioration mechanisms
- Explain the Corrosion of steel in concrete
- Describe the Assessment, diagnosis, repair, and protection of concrete
- Understand the different Methods of protection of reinforced concrete
- Identify the preventive measures for reinforced cement concrete

No. of students successfully completed the VAC course is **27 students** based on the following assessment process.

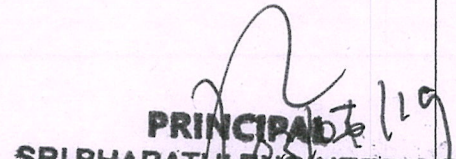
Assessment Process

- Students 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 * Attendance in VAC out of 100 percentage + 0.5 * Test mark in VAC out of 100 marks)


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PUDUKKOTTAI DISTRICT



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TRM CONSTRUCTION

Green Nest Homes

O.A.I.R Complex, JS Garden, Melavaladi, Lalgudi Main Road, Trichy - 621 218
Er. T. MURUGANANDHAM B.E., Licenced Building Surveyor & Consultant

CERTIFICATE OF PARTICIPATION

THIS CERTIFICATE IS PROUDLY PRESENTED TO

RAJESWARI J , B.E CIVIL-ENGINEERING, III YEAR

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN,

for successfully completing the

Value Added Courses on

"Corrosion of RC Structures" from 24.06.2019 to 28.06.2019

A handwritten signature in green ink, appearing to read 'S. Thilagavathi', is written over the printed name of the Principal.

Dr. S. THILAGAVATHI M.E., Ph.D.,
PRINCIPAL
SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN
Kalkkurchi - 622 303, Pudukkottai Dt.

A handwritten signature in black ink, appearing to read 'T. Muruganandham', is written above a horizontal line.

STRUCTURAL ENGINEER,
TRM CONSTRUCTIONS.



TRM CONSTRUCTION

Green Nest Homes

O.A.I.R Complex, JS Garden, Melavaladi, Lalgudi Main Road, Trichy - 621 218
Er. T. MURUGANANDHAM B.E., Licenced Building Surveyor & Consultant

CERTIFICATE OF PARTICIPATION

THIS CERTIFICATE IS PROUDLY PRESENTED TO

SATHYA M , B.E CIVIL-ENGINEERING, II YEAR

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN,

for successfully completing the

Value Added Courses on

"Corrosion of RC Structures" from 24.06.2019 to 28.06.2019

A green ink signature of Dr. S. Thilagavathi, written in a cursive style.

Dr. S. THILAGAVATHI M.E., Ph.D.,
PRINCIPAL
SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN
Kalkkurchi - 622 303, Pudukkottai Dt.

A black ink signature of T. Muruganandham, written in a cursive style.

STRUCTURAL ENGINEER,
TRM CONSTRUCTIONS.



TRM CONSTRUCTION

Green Nest Homes

O.A.I.R Complex, JS Garden, Melavaladi, Lalgudi Main Road, Trichy - 621 218
Er. T. MURUGANANDHAM B.E., Licenced Building Surveyor & Consultant

CERTIFICATE OF PARTICIPATION

THIS CERTIFICATE IS PROUDLY PRESENTED TO

MENAKA R , B.E CIVIL-ENGINEERING, IV YEAR

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN,

for successfully completing the

Value Added Courses on

"Corrosion of RC Structures" from 24.06.2019 to 28.06.2019

A handwritten signature in green ink, appearing to be 'S. Thilagavathi', is written over the printed name and title of the Principal.

Dr. S:THILAGAVATHI M.E.,Ph.D.
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A handwritten signature in black ink, appearing to be 'T. Muruganandham', is written over the printed name and title of the Structural Engineer.

T. MURUGANANDHAM
STRUCTURAL ENGINEER,
TRM CONSTRUCTIONS.



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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 / ODD SEMESTER

Name of the Student :

Year/Sem:

AU Register Number:

Value Added Course on “Corrosion of RC structures”

MCQ QUESTIONS (25X4 = 100 Marks)

- The corrosion of reinforcement steel is because of while using ladder one should not lean sideways more than _____.
 - Carbonation
 - Presence of salt
 - Porosity of concrete
 - All of the above
- Corrosion of metals involves
 - Physical reactions
 - Chemical reactions
 - Both
 - None
- The following factors play vital role in corrosion process
 - Temperature
 - Solute concentration
 - Both
 - None
- Following equation is related to corrosion rate
 - Nernst equation
 - Faraday's equation
 - Either
 - Neither
- Passivity is due to
 - Higher EMF
 - Lower EMF
 - Oxide film
 - All
- Passivity is not the reason for inertness of the following
 - Au
 - Al
 - Ni
 - Ti
- Difficult to monitor and very dangerous form of corrosion
 - Galvanic
 - Pitting
 - Crevice
 - Stress
- This form of corrosion occurs due to concentration difference in a component
 - Uniform
 - Inter-granular

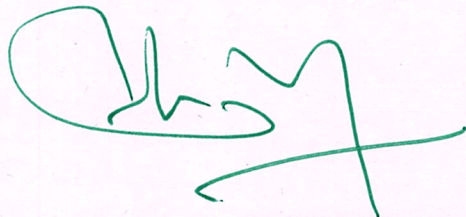
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- b) Galvanic
d) Stress
9. Main form of ceramic degradation
a) Corrosion
b) Weathering
c) Dissolution
d) Swelling
10. When Pt and Co are electrically connected, which one gets corroded
a) Pt
b) Co
c) None
d) Can't decide
11. Which of the following can be used for cathodic protection:
a) Resources
b) Project duration time
c) Both resources and project duration time
d) None of the above
12. What is the process called in which cement reacts with water to form a hard, solid material?
a) Hydration
b) Oxidation
c) Carbonation
d) Decomposition
13. What is the maximum water to cement ratio for concrete to be considered high strength?
a) 0.5
b) 0.6
c) 0.7
d) 0.8
14. What is the role of steel reinforcement in reinforced concrete?
a) Increases strength
b) Increases ductility
c) Increases durability
d) All of the above
15. What is the process called in which steel reinforcement corrodes and deteriorates the concrete surrounding it?
a) Carbonation
b) Chloride attack
c) Alkali-aggregate reaction
d) Corrosion
16. What is the minimum compressive strength for concrete used in building construction according to Indian Standards?
a) 20 MPA
b) 25 MPA
c) 30 MPA
d) 35 MPA
17. What is the process called in which the concrete surface is treated to increase its resistance to water and other substances?
a) Sealing
b) Curing
c) Coating
d) Surface Treatment
18. What is the process called in which the steel reinforcement is coated with a material to protect it from corrosion?
a) Galvanizing
b) Epoxy coating
c) Painting
d) Anodizing


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19. Which of the following is an example of corrosion?
- a) Rusting of iron
 - b) Tarnishing of silver
 - c) Liquefaction of ammonia
 - d) Rusting of iron and tarnishing of silver
20. How much rust will be formed when 100kg of iron have completely rusted away?
- a) 100 kg
 - b) 190 kg
 - c) 250 kg
 - d) 320 kg
21. Select the incorrect statement from the following option.
- a) Replacement of corroded equipment is time-consuming
 - b) Corrosion causes contamination of product
 - c) Corrosion increases the electrical conductivity of metals
 - d) Corrosion causes leakage of toxic liquid or gases
22. Due to corrosion, which useful properties of metals are lost
- a) malleability
 - b) ductility
 - c) electrical conductivity
 - d) All of the above
23. Which of the following metal is the best material selection combination for the nitric acid environment?
- a) Tin
 - b) Nickel and its alloys
 - c) Stainless steels
 - d) Steel
24. Metal undergoes _____ in the process of corrosion.
- a) Oxidation
 - b) Reduction
 - c) Condensation
 - d) Division
25. Which is the commonly adopted theory of corrosion?
- a) Direct corrosion
 - b) High temperature oxidation
 - c) Electrochemical corrosion
 - d) Galvanic action theory



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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 / ODD SEMESTER

Value Added Course on “Corrosion of RC structures”

ANSWER KEY

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

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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 / ODD SEMESTER

22
25

Name of the Student : S. Sruvidhya

Year/Sem: IV / III

AU Register Number: 912618103809

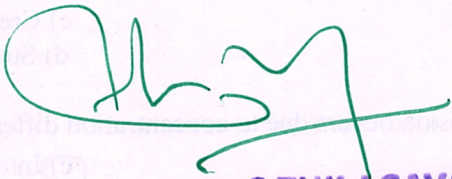
Value Added Course on “Corrosion of RC structures”

MCQ QUESTIONS (25X4 = 100 Marks)

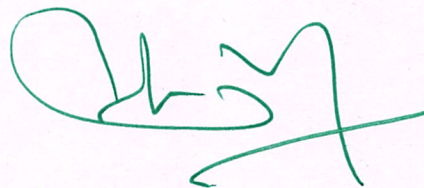
- The corrosion of reinforcement steel is because of while using ladder one should not lean sideways more than _____.
a) Carbonation
b) Presence of salt
c) Porosity of concrete
d) All of the above
- Corrosion of metals involves
a) Physical reactions
b) Chemical reactions
c) Both
d) None
- The following factors play vital role in corrosion process
a) Temperature
b) Solute concentration
c) Both
d) None
- Following equation is related to corrosion rate
a) Nernst equation
b) Faraday's equation
c) Either
d) Neither
- Passivity is due to
a) Higher EMF
b) Lower EMF
c) Oxide film
d) All
- Passivity is not the reason for inertness of the following
a) Au
b) Al
c) Ni
d) Ti
- Difficult to monitor and very dangerous form of corrosion
a) Galvanic
b) Pitting
c) Crevice
d) Stress
- This form of corrosion occurs due to concentration difference in a component
a) Uniform
b) Inter-granular

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- b) Galvanic
9. Main form of ceramic degradation
a) Corrosion
b) Weathering
- d) Stress
c) Dissolution
d) Swelling
10. When Pt and Co are electrically connected, which one gets corroded
a) Pt
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c) None
d) Can't decide
11. Which of the following can be used for cathodic protection:
a) Resources
b) Project duration time
c) Both resources and project duration time
d) None of the above
12. What is the process called in which cement reacts with water to form a hard, solid material?
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13. What is the maximum water to cement ratio for concrete to be considered high strength?
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19. Which of the following is an example of corrosion?
a) Rusting of iron
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20. How many rust will be formed when 100kg of iron have completely rusted away?
a) 100 kg
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a) Tin
b) Nickel and its alloys
c) Stainless steels
d) Steel
24. Metal undergoes _____ in the process of corrosion.
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25. Which is the commonly adopted theory of corrosion?
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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 / ODD SEMESTER

Name of the Student : M. Kaliswari

Year/Sem: IV / VII

AU Register Number: 91261610302

Value Added Course on “Corrosion of RC structures”

MCQ QUESTIONS (25X4 = 100 Marks)

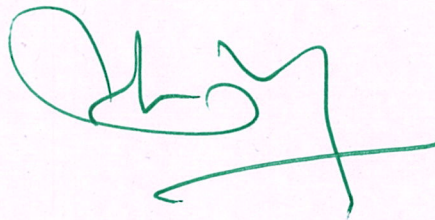
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- Passivity is not the reason for inertness of the following
 a) Au
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- Difficult to monitor and very dangerous form of corrosion
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- b) Galvanic
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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 / ODD SEMESTER

Name of the Student : *D. Dhesikapathi*

Year/Sem: *III / V*

AU Register Number: *912617103002*

Value Added Course on “Corrosion of RC structures”

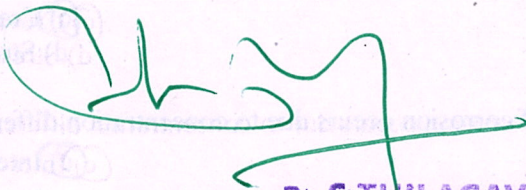
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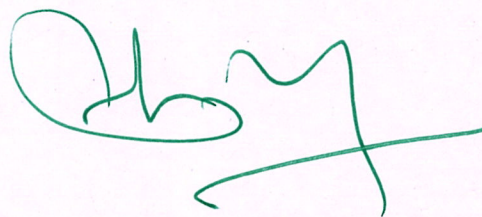
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18/25

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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 (ODD SEM)

MARK SHEET FOR VALUE ADDED COURSE- CORROSION OF RC STRUCTURES

| S.NO | REG.NO | NAME OF THE STUDENT | YEAR/ BRANCH | ATTENDANCE DETAILS | | VAC-MCQ TEST | | OVERALL MARK(100) (50% of A + 50% of B) |
|------|--------------|---------------------|-----------------|-------------------------------|--------------------------------|-----------------------------|-------------------------|--|
| | | | | No of Sessions Attended | Attendance Mark(100) (A) | No of Correct Answers | MCQ Mark(100) (B) | |
| 1 | 912618103003 | MAHESHWARI V | II/CIVIL | 8 | 80 | 17 | 68 | 74 |
| 2 | 912618103005 | MEENACHI K | II/CIVIL | 9 | 90 | 18 | 72 | 81 |
| 3 | 912618103008 | SATHYA M | II/CIVIL | 9 | 90 | 20 | 80 | 85 |
| 4 | 912618103009 | SRIVIDHYA S | II/CIVIL | 10 | 100 | 22 | 88 | 94 |
| 5 | 912618103010 | UMAMAHESWARI K | II/CIVIL | 9 | 90 | 20 | 80 | 85 |
| 6 | 912617103001 | CHANDRIKA C | III/CIVIL | 9 | 90 | 21 | 84 | 87 |
| 7 | 912617103002 | DHESIKAPARTHI D | III/CIVIL | 10 | 100 | 18 | 72 | 86 |

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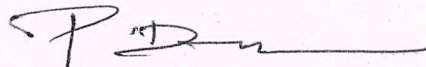
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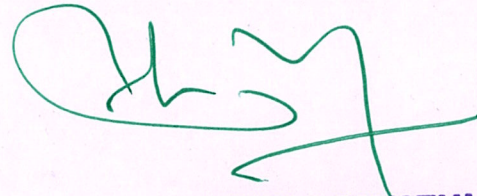
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| | | | | | | | | |
|----|--------------|------------------|-----------|----|-----|----|----|----|
| 8 | 912617103003 | KARTHIKA K | III/CIVIL | 10 | 100 | 22 | 88 | 94 |
| 9 | 912617103004 | KASTHURI K | III/CIVIL | 9 | 90 | 21 | 84 | 87 |
| 10 | 912617103005 | MONIKA K | III/CIVIL | 10 | 100 | 18 | 72 | 86 |
| 11 | 912617103006 | MUTHUMEENA P | III/CIVIL | 10 | 100 | 22 | 88 | 94 |
| 12 | 912617103007 | POTHUMPEN A | III/CIVIL | 9 | 90 | 19 | 76 | 83 |
| 13 | 912617103008 | PRIYADHARSHINI S | III/CIVIL | 8 | 80 | 18 | 72 | 76 |
| 14 | 912617103009 | RAJESWARI J | III/CIVIL | 10 | 100 | 20 | 80 | 90 |
| 15 | 912617103010 | SIVAPRIYA S | III/CIVIL | 10 | 100 | 18 | 72 | 86 |
| 16 | 912617103701 | LAKSHMI A | III/CIVIL | 10 | 100 | 20 | 80 | 90 |
| 17 | 912616103001 | AARTHI G | IV/CIVIL | 9 | 90 | 19 | 76 | 83 |
| 18 | 912616103002 | ANANTHI S | IV/CIVIL | 8 | 80 | 17 | 68 | 74 |
| 19 | 912616103004 | KANIMOZHI P | IV/CIVIL | 9 | 90 | 20 | 80 | 85 |
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| 21 | 912616103006 | MASILAMANI M | IV/CIVIL | 8 | 80 | 17 | 68 | 74 |

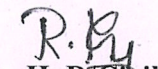
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| | | | | | | | | |
|----|--------------|-----------------|----------|----|-----|----|----|----|
| 22 | 912616103007 | MENAKA R | IV/CIVIL | 10 | 100 | 22 | 88 | 94 |
| 23 | 912616103008 | PRAVEENA M | IV/CIVIL | 10 | 100 | 21 | 84 | 92 |
| 24 | 912616103301 | GOWSIKA N | IV/CIVIL | 9 | 90 | 20 | 80 | 85 |
| 25 | 912616103302 | KALISWARI M | IV/CIVIL | 10 | 100 | 20 | 80 | 90 |
| 26 | 912616103303 | MAHESWARI M | IV/CIVIL | 9 | 90 | 18 | 72 | 81 |
| 27 | 912616103304 | SARATHAPRITHA S | IV/CIVIL | 9 | 90 | 21 | 84 | 87 |


VAC Coordinator



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HoD/Civil
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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 / EVEN SEMESTER

Date: 04/12/2019

DEPARTMENT CIRCULAR

This is to inform you that Value Added Course offered by the Department of Civil Engineering for all Second, Third & Final year Civil Engineering students on “Soil pollution and Restoration” in association with “PMP Consultants” from 09.12.2019 to 14.12.2019. Certificates will be issued to the eligible participants at the end of the Course.

| S.No. | Name of the Course | Resource Person |
|-------|--------------------------------|--|
| 1. | Soil pollution and Restoration | Er.M.Pradeep, M.E., Approved Valuer & Chartered Engineer, PMP Consultant, Trichy. |

Cc:

- Principal's Office
- IQAC Coordinator
- Class In charges - II, III & IV-year of Civil Engineering
- II, III & IV-year Civil Engineering Students
- Notice Board

R. S. Srinivasan
HoD/Civil

HOD / CIVIL
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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 / EVEN SEMESTER

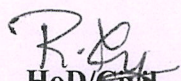
Value Added Course on “Soil pollution and Restoration”

SYLLABUS

| S.NO | TOPIC COVERED | DURATION (in hours) | DATE |
|--------------------|---|------------------------|------------|
| 1 | General Consideration, physical and chemical, weathering of bedrock | 3 | 09.12.2019 |
| 2 | Importance of land reclamation, rehabilitation, ecological Restoration | 3 | 09.12.2019 |
| 3 | Dumping of large quantities of solid waste, Deforestation and soil erosion | 3 | 10.12.2019 |
| 4 | Indiscriminate use of pesticides, insecticides and herbicides, Chemicals released by industrial wastes | 3 | 10.12.2019 |
| 5 | Effects on agriculture, urban areas, Ecological imbalance | 3 | 11.12.2019 |
| 6 | Changes in Soil Structure, Effect on Ecosystem and Biodiversity. | 3 | 11.12.2019 |
| 7 | Process of increasing soil fertility by innovative approaches, Reducing chemical fertilizer and pesticide use | 3 | 12.12.2019 |
| 8 | Reusing of materials, Solid waste treatment, Recycling and recovery of material | 3 | 12.12.2019 |
| 9 | Strengthening of soil structure, Sustainable Practices, Integrated farming | 3 | 13.12.2019 |
| 10 | Chemical remediation, Remediation of soil pollution using Electrokinetic method. | 3 | 13.12.2019 |
| 11 | Urban soil degradation waste induced pollution | 3 | 14.12.2019 |
| 12 | Soil fallout radionuclide contamination | 3 | 14.12.2019 |
| Total Hours | | 36 | |


VAC Coordinator


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PUDUKKOTTAI - 622 303



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 (EVEN SEM)

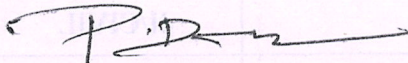
STUDENTS PARTICIPATION LIST-VAC PROGRAM

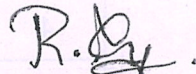
SOIL POLLUTION AND RESTORATION

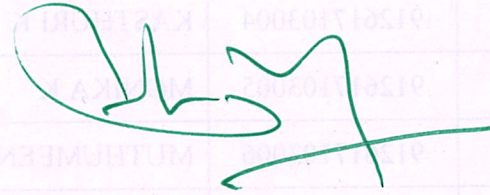
| S.NO | REG.NO | NAME OF THE STUDENT | YEAR/BRANCH |
|------|--------------|---------------------|-------------|
| 1 | 912618103003 | MAHESHWARI V | II/CIVIL |
| 2 | 912618103005 | MEENACHI K | II/CIVIL |
| 3 | 912618103008 | SATHYA M | II/CIVIL |
| 4 | 912618103009 | SRIVIDHYA S | II/CIVIL |
| 5 | 912618103010 | UMAMAHESWARI K | II/CIVIL |
| 6 | 912617103001 | CHANDRIKA C | III/CIVIL |
| 7 | 912617103002 | DHESIKAPARTHI D | III/CIVIL |
| 8 | 912617103003 | KARTHIKA K | III/CIVIL |
| 9 | 912617103004 | KASTHURI K | III/CIVIL |
| 10 | 912617103005 | MONIKA K | III/CIVIL |
| 11 | 912617103006 | MUTHUMEENA P | III/CIVIL |
| 12 | 912617103007 | POTHUMPEN A | III/CIVIL |
| 13 | 912617103008 | PRIYADHARSHINI S | III/CIVIL |
| 14 | 912617103009 | RAJESWARI J | III/CIVIL |
| 15 | 912617103010 | SIVAPRIYA S | III/CIVIL |
| 16 | 912617103701 | LAKSHMI A | III/CIVIL |
| 17 | 912616103001 | AARTHI G | IV/CIVIL |
| 18 | 912616103002 | ANANTHI S | IV/CIVIL |

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| | | | |
|----|--------------|-----------------|----------|
| 19 | 912616103004 | KANIMOZHI P | IV/CIVIL |
| 20 | 912616103005 | LAVANYA K | IV/CIVIL |
| 21 | 912616103006 | MASILAMANI M | IV/CIVIL |
| 22 | 912616103007 | MENAKA R | IV/CIVIL |
| 23 | 912616103008 | PRAVEENA M | IV/CIVIL |
| 24 | 912616103301 | GOWSIKA N | IV/CIVIL |
| 25 | 912616103302 | KALISWARI M | IV/CIVIL |
| 26 | 912616103303 | MAHESWARI M | IV/CIVIL |
| 27 | 912616103304 | SARATHAPRITHA S | IV/CIVIL |


VAC Coordinator


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HCD / CIVIL
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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 (EVEN SEM)

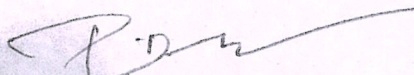
ATTENDANCE SHEET FOR VALUE ADDED COURSE- SOIL POLLUTION AND RESTORATION

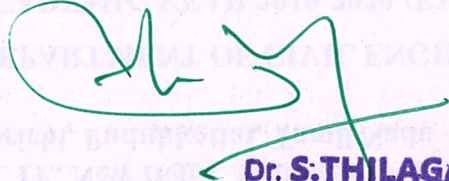
| S.NO | REG.NO | NAME OF THE STUDENT | YEAR/ BRANCH | DATE: 09.12.19 | | DATE: 10.12.19 | | DATE: 11.12.19 | | DATE: 12.12.19 | | DATE: 13.12.19 | | DATE: 14.12.19 | | NO OF SESSIONS ATTENDED | SIGNATURE OF THE STUDENT |
|------|--------------|---------------------|-----------------|-------------------|----|-------------------|----|-------------------|----|-------------------|----|-------------------|----|-------------------|----|-------------------------------|--------------------------------|
| | | | | FN | AN | FN | AN | FN | AN | FN | AN | FN | AN | FN | AN | | |
| 1 | 912618103003 | MAHESHWARI V | II/CIVIL | / | / | / | / | / | a | / | / | / | a | / | / | 10 | Menh |
| 2 | 912618103005 | MEENACHI K | II/CIVIL | / | / | / | / | / | / | / | a | / | / | / | / | 11 | Meenal |
| 3 | 912618103008 | SATHYA M . | II/CIVIL | / | / | / | / | / | / | / | / | / | / | / | / | 12 | Sathya |
| 4 | 912618103009 | SRIVIDHYA S | II/CIVIL | / | / | / | / | / | / | / | / | / | / | / | / | 12 | Sriyaf. |
| 5 | 912618103010 | UMAMAHESWARI K | II/CIVIL | / | a | / | / | / | / | / | / | / | / | / | / | 11 | Umarh |
| 6 | 912617103001 | CHANDRIKA C | III/CIVIL | / | / | / | / | / | / | / | / | / | a | / | / | 11 | C. char |
| 7 | 912617103002 | DHESIKAPARTHI D | III/CIVIL | / | / | / | / | / | / | / | / | / | / | / | / | 12 | D. Dheerika |
| 8 | 912617103003 | KARTHIKA K | III/CIVIL | / | / | / | a | / | / | / | / | / | / | / | / | 11 | K. karthika |
| 9 | 912617103004 | KASTHURI K | III/CIVIL | / | / | / | / | / | a | / | / | / | / | / | / | 11 | Kasthuri |
| 10 | 912617103005 | MONIKA K | III/CIVIL | / | / | / | / | / | / | / | / | / | / | / | / | 12 | Monika |
| 11 | 912617103006 | MUTHUMEENA P | III/CIVIL | / | / | / | / | / | / | / | / | / | / | / | / | 12 | Muthumeena |

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| | | | | | | | | | | | | | | | | | |
|----|--------------|------------------|-----------|---|---|---|---|---|---|---|---|---|---|---|---|----|--------------|
| 12 | 912617103007 | POTHUMPEN A | III/CIVIL | 1 | 1 | 1 | 1 | 1 | a | 1 | 1 | 1 | 1 | 1 | 1 | 11 | Pothu |
| 13 | 912617103008 | PRIYADHARSHINI S | III/CIVIL | 1 | 1 | 1 | a | 1 | 1 | 1 | 1 | 1 | a | 1 | 1 | 10 | Priyath |
| 14 | 912617103009 | RAJESWARI J | III/CIVIL | 1 | 1 | 1 | 1 | 1 | a | 1 | 1 | 1 | 1 | 1 | 1 | 11 | Rajeshwari |
| 15 | 912617103010 | SIVAPRIYA S | III/CIVIL | 1 | a | 1 | 1 | 1 | 1 | a | 1 | 1 | 1 | 1 | 1 | 10 | S. Sivapriya |
| 16 | 912617103701 | LAKSHMI A | III/CIVIL | 1 | 1 | 1 | a | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11 | Lakshmi |
| 17 | 912616103001 | AARTHI G | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | a | 1 | 1 | 1 | a | 1 | 10 | Arthi |
| 18 | 912616103002 | ANANTHI S | IV/CIVIL | 1 | a | 1 | 1 | 1 | a | 1 | 1 | 1 | 1 | 1 | 1 | 10 | Ananthi |
| 19 | 912616103004 | KANIMOZHI P | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 | Kanimozhi |
| 20 | 912616103005 | LAVANYA K | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 | Lavanya |
| 21 | 912616103006 | MASILAMANI M | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | a | 1 | 1 | 1 | 1 | 1 | 11 | Masilamani |
| 22 | 912616103007 | MENAKA R | IV/CIVIL | 1 | a | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11 | Menaka |
| 23 | 912616103008 | PRAVEENA M | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 | Preetha |
| 24 | 912616103301 | GOWSIKA N | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 | Gowri |
| 25 | 912616103302 | KALISWARI M | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 | Kalishwari |
| 26 | 912616103303 | MAHESWARI M | IV/CIVIL | 1 | 1 | 1 | a | 1 | 1 | 1 | 1 | 1 | 1 | a | 1 | 10 | Maheshwari |
| 27 | 912616103304 | SARATHAPRITHA S | IV/CIVIL | 1 | 1 | 1 | 1 | 1 | a | 1 | 1 | 1 | 1 | 1 | 1 | 11 | Sarathapriya |


VAC Coordinator



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Report on Value Added Course

Title: Soil pollution and Restoration

Resource Person: Er.M.Pradeep, M.E.,
Approved Valuer & Chartered Engineer,
PMP Consultant,
Trichy.

Date of conduct from : 09.12.2019 To: 14.12.2019 Duration: 36 Hours

Organized Department : CIVIL ENGINEERING

Participant Year: 2, 3, 4 Semester: EVEN No. of Students Registered : 27

Venue: First Floor: Lecture Hall:30

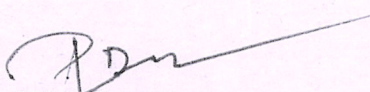
Outcome of Value Added Course (VAC): Students are able to


- Apply knowledge of soil structure and soil formation to address soil environment issues.
- Apply physical and chemical parameters of soil environment in the process of soil degradation and pollution assessment.
- Evaluate the soil degradation, advantages and disadvantages of preventing and improving methods for soil pollution.
- Assess the causes and sources of pollution to treat soil contamination.
- compare remediation technology and improve the remediate.
- Conceive ideas of soil environment improvement in soil degradation and pollution.

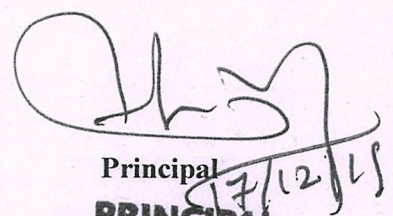
No. of students successfully completed the VAC course is **27 students** based on the following assessment process.

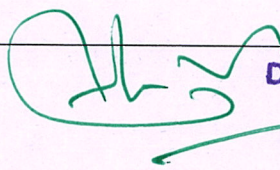
Assessment Process

- Students 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 * Attendance in VAC out of 100 percentage + 0.5 * Test mark in VAC out of 100 marks)


VAC Coordinator


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KAIKKURICHI - 622 303.
PUDUKKOTTAI DISTRICT


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DESIGNERS / ENGINEERS / TRAINERS
We Convert dreams to Reality

CERTIFICATE OF PARTICIPATION

This is to certify that

MUTHUMEENA P, B.E - CIVIL ENGINEERING, III YEAR
from Sri Bharathi Engineering College for Women,
has successfully participated 6 days Value Added Course on
“Soil pollution and Restoration”

during

09.12.2019-14.12.2019

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Kaikkurchi - 622 303, Pudukkottai Dt.

Registered Structural
Engineer



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UMAMAHESWARI K, B.E - CIVIL ENGINEERING, II YEAR

from Sri Bharathi Engineering College for Women,

has successfully participated 6 days Value Added Course on

“Soil pollution and Restoration”

during

09.12.2019-14.12.2019

Dr. S. THILAGAVATHI M.E., Ph.D.,

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**Registered Structural
Engineer**



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This is to certify that

LAVANYA K, B.E - CIVIL ENGINEERING, IV YEAR

from Sri Bharathi Engineering College for Women,

has successfully participated 6 days Value Added Course on

“Soil pollution and Restoration”

during

09.12.2019-14.12.2019

Dr. S:THILAGAVATHI M.E.,Ph.D.,
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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 / EVEN SEMESTER

Name of the Student :

Year/Sem:

AU Register Number:

Value Added Course on “Soil pollution and Restoration”

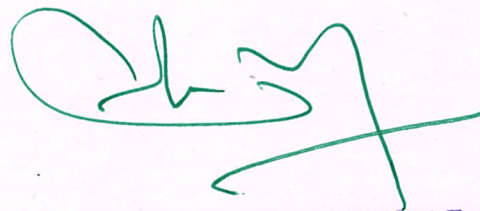
MCQ QUESTIONS (25X4 = 100 Marks)

1. What is negative Soil Pollution?
 - a) It indicates a reduction in soil productivity due to erosion and overuse
 - b) Reduction in soil productivity due to the addition of pesticides
 - c) Converting fertile land into hardened land by dumping ash, sludge and garbage
 - d) None of the above
2. The quantity of DDT at each trophic level in the Food Chain
 - a) Decreases
 - b) Remains the same
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 - d) Changes
3. DDT is a major contributor to Pollution because of
 - a) It kills useful microorganisms
 - b) It destroys valuable species of worms
 - c) It is non-biodegradable
 - d) It interferes with pesticides
4. The chemicals released due to unsustainable agricultural practices and cause Soil Pollution are
 - a) Pathogens
 - b) Chemical fertilizers
 - c) Strontium-90
 - d) Weedicides
5. Slash and burn agriculture, which is not a healthy technique of farming and depletes soil of the important nutrients, is a part of which of the following?
 - a) Striping farming
 - b) Intercrop farming
 - c) Jhum cultivation
 - d) None of the above
6. How are PAHs related to Soil Pollution?
 - a) They are carcinogenic organic compounds
 - b) They are fertilizer wastes
 - c) They are inorganic wastes from industries
 - d) They are harmful metals that pollute the soil
7. Soil pollution due to PAHs can be sourced to
 - a) vehicle emissions
 - b) cigarette smoke
 - c) extraction of shale oil
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8. Benzene and Methylbenzene the major Soil Pollutants mostly from the Petroleum Industries are
- a) Heavy organic pollutants
b) Inorganic pollutants
c) Carcinogenic pollutants
d) None of the above
9. Which of these pollutants is a Herbicide?
- a) PHPs
b) Amides
c) Chlorinated hydrocarbons
d) Copper Sulfate
10. Which of the following serves as an indicator of Atmospheric Pollution
- a) Fern
b) Liverworts
c) Hornworts
d) Epiphytic lichens
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c) Not treating the upper catchment and proceeds towards an outlet
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12. Which type of land/soil pollution cause makes soil unfit for cultivation due to high salt content?
- a) Carbonisation
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c) Salinization
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13. Phosphorus uptake in alkali soil in the form of _____
- a) H_2PO_4^-
b) HPO_4^{2-}
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d) H_3PO_4
14. Which fertilizer produce acidity in soil
- a) Ammonium sulfate
b) Sodium nitrate
c) Calcium ammonium nitrate
d) Calcium nitrate
15. Maximum N content found in N fertilizer
- a) Urea
b) Anhydrous ammonia
c) Sodium nitrate
d) Ammonium sulphate
16. The phenomenon slickenside found in which soil
- a) Inceptisol
b) Vertisol
c) Gelisol
d) Spodosol
17. pF scale for Field capacity is _____
- a) 2
b) 2.5
c) 3.5
d) 4.5
18. What main kind of pollution affects the health of plants?
- a) Minerals
b) Roots
c) Soil Pollution
d) Plant health
19. Which soil horizon contains decomposed plants and animals?
- a) A Horizon
b) B Horizon
c) C Horizon
d) O Horizon

20. Which of these factors is not a cause in an increase in land pollution?
a) Increase in solid waste of garbage on open lots c) Proper disposal of cans in nearby bins
b) Toxic waste d) Radioactive waste
21. Immobilization of sulphur occurs in soil when C:S ratio is _____
a) < 300:1 c) > 400:1
b) > 300:1 d) > 200:1
22. Ammonia volatilization is purely a process of _____
a) Physical c) Biological
b) Chemical d) None of the above
23. Which chemical compound is used to improve soil aeration, infiltration and water holding capacity of soil?
a) Jalshakti c) Hydrotech A
b) Fentachlore d) None of the above
24. Saline soil is also known as _____
a) Solonchak c) Sodochalk
b) Solonetz d) None of the above
25. Which clay mineral is responsible for cracking in black soil?
a) Kaolinite c) Vermiculite
b) Illite d) Montmorillonite



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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 / EVEN SEMESTER

Value Added Course on “Soil pollution and Restoration”

ANSWER KEY

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

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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 / EVEN SEMESTER

Name of the Student : *Meenachi . K* Year/Sem: II / II

AU Register Number: *912618103005*


Value Added Course on “Soil pollution and Restoration”

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20. Which of these factors is not a cause in an increase in land pollution?
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21. Immobilization of sulphur occurs in soil when C:S ratio is _____
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24. Saline soil is also known as _____
a) Solonchalk
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Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 / EVEN SEMESTER

Name of the Student : *Sarathapriya.S* Year/Sem: *IV / VIII*

AU Register Number: *912616103304*

Value Added Course on “Soil pollution and Restoration”

MCO QUESTIONS (25X4 = 100 Marks)

1. What is negative Soil Pollution?
 a) It indicates a reduction in soil productivity due to erosion and overuse
 b) Reduction in soil productivity due to the addition of pesticides
 c) Converting fertile land into hardened land by dumping ash, sludge and garbage
 d) None of the above
2. The quantity of DDT at each trophic level in the Food Chain
 a) Decreases
 b) Remains the same
 c) Increases
 d) Changes
3. DDT is a major contributor to Pollution because of
 a) It kills useful microorganisms
 b) It destroys valuable species of worms
 c) It is non-biodegradable
 d) It interferes with pesticides
4. The chemicals released due to unsustainable agricultural practices and cause Soil Pollution are
 a) Pathogens
 b) Chemical fertilizers
 c) Strontium-90
 d) Weedicides
5. Slash and burn agriculture, which is not a healthy technique of farming and depletes soil of the important nutrients, is a part of which of the following?
 a) Striping farming
 b) Intercrop farming
 c) Jhum cultivation
 d) None of the above
6. How are PAHs related to Soil Pollution?
 a) They are carcinogenic organic compounds
 b) They are fertilizer wastes
 c) They are inorganic wastes from industries
 d) They are harmful metals that pollute the soil
7. Soil pollution due to PAHs can be sourced to
 a) vehicle emissions
 b) cigarette smoke
 c) extraction of shale oil
 d) All of the above

22
25

[Signature]
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8. Benzene and Methylbenzene the major Soil Pollutants mostly from the Petroleum Industries are
- a) Heavy organic pollutants
b) Inorganic pollutants
c) Carcinogenic pollutants
d) None of the above
9. Which of these pollutants is a Herbicide?
- a) PHPs
b) Amides
c) Chlorinated hydrocarbons
d) Copper Sulfate
10. Which of the following serves as an indicator of Atmospheric Pollution
- a) Fern
b) Liverworts
c) Hornworts
d) Epiphytic lichens
11. Why is area treatment important for Soil?
- a) To reduce the impact of raindrops on the soil
b) To maximize surface run-off
c) Not treating the upper catchment and proceeds towards an outlet
d) Not storing surplus rainwater
12. Which type of land/soil pollution cause makes soil unfit for cultivation due to high salt content?
- a) Carbonisation
b) Oxygenation
c) Salinization
d) Desertification
13. Phosphorus uptake in alkali soil in the form of
- a) H_2PO_4^-
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14. Which fertilizer produce acidity in soil
- a) Ammonium sulfate
b) Sodium nitrate
c) Calcium ammonium nitrate
d) Calcium nitrate
15. Maximum N content found in N fertilizer
- a) Urea
b) Anhydrous ammonia
c) Sodium nitrate
d) Ammonium sulphate
16. The phenomenon slickenside found in which soil
- a) Inceptisol
b) Vertisol
c) Gelisol
d) Spodosol
17. pF scale for Field capacity is ____
- a) 2
b) 2.5
c) 3.5
d) 4.5
18. What main kind of pollution affects the health of plants?
- a) Minerals
b) Roots
c) Soil Pollution
d) Plant health
19. Which soil horizon contains decomposed plants and animals?
- a) A Horizon
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DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC YEAR 2019-2020 / EVEN SEMESTER

Name of the Student : A. Pothumpen

Year/Sem: III / VI

20
25

AU Register Number: 912617103007

Value Added Course on “Soil pollution and Restoration”

MCQ QUESTIONS (25X4 = 100 Marks)

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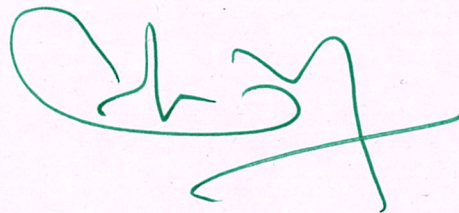
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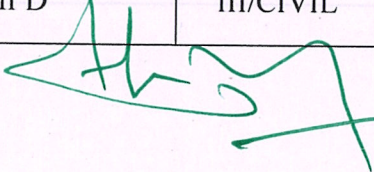
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DEPARTMENT OF CIVIL ENGINEERING

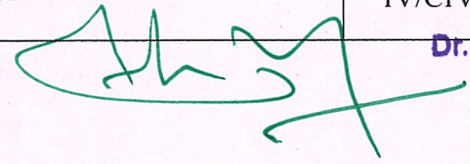
ACADEMIC YEAR 2019-2020 (EVEN SEM)

MARK SHEET FOR VALUE ADDED COURSE- SOIL POLLUTION AND RESTORATION

| S.NO | REG.NO | NAME OF THE STUDENT | YEAR/ BRANCH | ATTENDANCE DETAILS | | VAC-MCQ TEST | | OVERALL MARK(100) (50% of A + 50% of B) |
|------|--------------|---------------------|-----------------|-------------------------------|--------------------------------|-----------------------------|-------------------------|--|
| | | | | No of Sessions Attended | Attendance Mark(100) (A) | No of Correct Answers | MCQ Mark(100) (B) | |
| 1 | 912618103003 | MAHESHWARI V | II/CIVIL | 10 | 83 | 18 | 72 | 78 |
| 2 | 912618103005 | MEENACHI K | II/CIVIL | 11 | 92 | 19 | 76 | 84 |
| 3 | 912618103008 | SATHYA M | II/CIVIL | 12 | 100 | 20 | 80 | 90 |
| 4 | 912618103009 | SRIVIDHYA S | II/CIVIL | 12 | 100 | 21 | 84 | 92 |
| 5 | 912618103010 | UMAMAHESWARI K | II/CIVIL | 11 | 92 | 18 | 72 | 82 |
| 6 | 912617103001 | CHANDRIKA C | III/CIVIL | 11 | 92 | 20 | 80 | 86 |
| 7 | 912617103002 | DHESIKAPARTHI D | III/CIVIL | 12 | 100 | 19 | 76 | 88 |

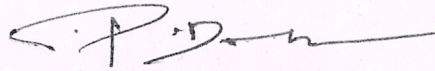

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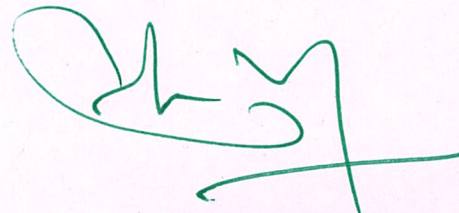
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|----|--------------|------------------|-----------|----|-----|----|----|----|
| 8 | 912617103003 | KARTHIKA K | III/CIVIL | 11 | 92 | 22 | 88 | 90 |
| 9 | 912617103004 | KASTHURI K | III/CIVIL | 11 | 92 | 20 | 80 | 86 |
| 10 | 912617103005 | MONIKA K | III/CIVIL | 12 | 100 | 20 | 80 | 90 |
| 11 | 912617103006 | MUTHUMEENA P | III/CIVIL | 12 | 100 | 21 | 84 | 92 |
| 12 | 912617103007 | POTHUMPEN A | III/CIVIL | 11 | 92 | 20 | 80 | 86 |
| 13 | 912617103008 | PRIYADHARSHINI S | III/CIVIL | 10 | 83 | 19 | 76 | 80 |
| 14 | 912617103009 | RAJESWARI J | III/CIVIL | 11 | 92 | 22 | 88 | 90 |
| 15 | 912617103010 | SIVAPRIYA S | III/CIVIL | 10 | 83 | 20 | 80 | 82 |
| 16 | 912617103701 | LAKSHMI A | III/CIVIL | 11 | 92 | 21 | 84 | 88 |
| 17 | 912616103001 | AARTHI G | IV/CIVIL | 10 | 83 | 17 | 68 | 76 |
| 18 | 912616103002 | ANANTHI S | IV/CIVIL | 10 | 83 | 18 | 72 | 78 |
| 19 | 912616103004 | KANIMOZHI P | IV/CIVIL | 12 | 100 | 20 | 80 | 90 |
| 20 | 912616103005 | LAVANYA K | IV/CIVIL | 12 | 100 | 18 | 72 | 86 |
| 21 | 912616103006 | MASILAMANI M | IV/CIVIL | 11 | 92 | 17 | 68 | 80 |



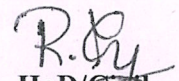
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| | | | | | | | | |
|----|--------------|-----------------|----------|----|-----|----|----|----|
| 22 | 912616103007 | MENAKA R | IV/CIVIL | 11 | 92 | 20 | 80 | 86 |
| 23 | 912616103008 | PRAVEENA M | IV/CIVIL | 12 | 100 | 20 | 80 | 90 |
| 24 | 912616103301 | GOWSIKA N | IV/CIVIL | 12 | 100 | 18 | 72 | 86 |
| 25 | 912616103302 | KALISWARI M | IV/CIVIL | 12 | 100 | 19 | 76 | 88 |
| 26 | 912616103303 | MAHESWARI M | IV/CIVIL | 10 | 83 | 21 | 84 | 84 |
| 27 | 912616103304 | SARATHAPRITHA S | IV/CIVIL | 11 | 92 | 22 | 88 | 90 |


VAC Coordinator



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