



ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY
Shobhavana Campus, Mijar, Moodbidri, D.K – 574225
Phone: 08258-262725, Fax: 08258-262726

Department of Civil Engineering

COURSEFILE

Subject Name: Building Materials and Construction technology

Subject code: (18CV34)

Semester: 3

Academic Year; 2020-2021

Santhosh K

Assistant Professor

Department of Civil Engineering

AIET

DEPARTMENT OF CIVIL ENGINEERING

VISION OF THE INSTITUTE

"Transformative education by pursuing excellence in engineering and Management through enhancing skills to meet the evolving needs of the community"

MISSION OF THE INSTITUTE

- To bestow quality technical education to imbibe knowledge, creativity and ethos to students community.
- To inculcate the best engineering practices through transformative education.
- To develop a knowledgeable individual for a dynamic industrial scenario.
- To inculcate research, entrepreneurial skills and human values in order to cater the needs of the society.

VISION OF THE DEPARTMENT

To become a leader in the field of Civil Engineering by imparting quality education in developing highly competent manpower and promote research to meet the current and future challenges in Civil Engineering.

MISSION OF THE DEPARTMENT

- To impart knowledge by creating conducive teaching-learning environment.
- To produce civil engineers of high caliber, technical skills and ethical values, to serve the society.
- To promote innovation in the minds of future engineers to face the challenges.

DEPARTMENT OF CIVIL ENGINEERING

PROGRAM EDUCATIONAL OBJECTIVES

- To provide the students a strong foundation in Basic Sciences that will enable them to identify and solve real time problems in Civil engineering for Industries and Research activities.
- To develop abilities and talents, leading to creativity and productivity in professional and industrial field beyond the curriculum and thus enhance the employability skill.
- To explore and apply the modern engineering tools for planning, design, execution and maintenance of works those are technically and economically viable, and socially acceptable.

PROGRAM SPECIFIC OUTCOMES

- **PSO1:** The graduates will be able to plan, analyse, design and execute cost effective Civil engineering structures without over exploitation of natural resources.
- **PSO2:** The graduates will have the ability to take up employment, entrepreneurship, research and development for sustainable civil Society
- **PSO3:** The graduates will be able to pursue opportunities for personal and professional growth, higher studies, demonstrate leadership skills and engage in lifelong learning by active participation in civil engineering profession.
- **PSO4:** The graduates will be able to demonstrate professional integrity and an appreciation of ethical, environmental, regulatory and issues related to civil engineering projects.

Time Table Odd Semester 2020-21
DEPARTMENT OF CIVIL ENGINEERING

DEPARTMENT OF CIVIL

Academic Year							Scheme		Semester		Section		Class Coordinator		Room No		
2020-21							2018		3		A		Ms. Tanvi Rai A		502		
Time		9.00 To 9.55		9.55 To 10.50		10.50 To 11.10		11.10 To 12.05		12.05 To 1.00		1.00 To 2.00		2.00 To 3.00		3.00 To 4.00	
Day		MON		TUE		WED		THU		FRI		SAT					
		SOM (GR)		BS (RRB)		EG (HGU)		FM (VR)		BMCT (SK)		M-III (RSH)					
		EG (HGU)		BS (RRB)		FM (VR)		BMCT (SK)		M-III (RSH)		SOM (GR)					
		BS (RRB)		FM (VR)		BMCT (SK)		M-III (RSH)		SOM (GR)		A.KAN/V.KAN (AGS/RRB)		COMPULSORY LIBRARY (BMK)			
		FM (VR)		BS (RRB)		EG (HGU)		SOM (GR)		EG (HGU)		VIRTUAL LAB (RRB/ABR)					
		SOM (GR)		M-III (RSH)		EG (HGU)		FM (VR)						*****			

Allocation of Subjects

Subjects			Staffs	Staff Code
MATHS III	18MAT31	Transform Calculus, Fourier Series and Numerical Techniques	Prof. Rashmi R	RSH
SOM	18CV32	Strength of Materials	Prof. B E Gururaja	GR
FM	18CV33	Fluid Mechanics	Prof. Varadaraj K S	VR
BMCT	18CV34	Building Materials and Construction	Prof. Santhosh K	SK
BS	18CV35	Basic Surveying	Prof. Ramesh Rao B	RRB
EG	18CV36	Engineering Geology	Dr. H G Umeshchandra	HGU
CABPD LAB	18CVL37	Computer Aided Building Planning & Drawing	Prof. Arun Kumar G S Prof. Billigraham M Kurian	AGS BMK
BMT LAB	18CVL38	Building Materials Testing Laboratory	Prof. Santhosh K Prof. Tanvi Rai A Prof. Kavyashree Aradhya	SK TR KSA
KANNADA	18KAK39/ 18KVK39	Aadaliha Kannada (Kannada for Administration) Vyavaharika Kannada (Kannada for communication)	Prof. Arun Kumar G S Prof. Ramesh Rao B	AGS RRB

Ramesh
Time Table Coordinator

D. Reddy
Dept. of Civil Engineering
Alva's Institute of Engg. & Technology

Principal
Principal
Alva's Institute of Engg. & Technology
Moodbidri - 574 225. 0



ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

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DEPARTMENT OF CIVIL ENGINEERING

INDIVIDUAL TIMETABLE (ODD SEMESTER 2020-21)

Name of the Faculty		Prof. Santhosh K (SK)					With Effect From: 17-11-2020			
Period	1	2	T E A B R E A K	3	4	L U N C H B R E A K	5	6	7	No. of Units
Time	09.00 - 09.55	09.55 - 10.50		11.10-12.05	12.05-1.00		2-3	3-4	4-5	
Day										
Monday				DRCC 5 SEM			BMT LAB 3A-1			5
Tuesday		BMCT 3 SEM							Activity 5SEM	2
Wednesday				BMCT 3 SEM			BMT LAB 3A-2			5
Thursday		BMCT 3 SEM		Semin ar 7A				DRCC 5 SEM		6
Friday		BMCT 3 SEM						DRCC 5 SEM		6
Saturday	DRCC 5 SEM									2

Other Activities: TRAINING COORDINATOR /STUDENT DATABASE COORDINATOR, CONCRETE & HIGHWAY MATERIALS TESTING LABORATORY, ALUMNI ASSOCIATION COORDINATION, CIVIATION - FORUM ACTIVITIES COORDINATION (TECHNICAL TALKS, TRAINING PROGRAMMES, STUDENT WORKSHOPS, DEPARTMENT PMKVY COORDINATION, SPORTS COORDINATION

Total Units* 26

* EXCLUDING OTHER ACTIVITIES

[Signature]

HOD

H.O.D.

Dept. of Civil Engineering
Alva's Institute of Engg. & Technology
Mijar, Moodabidri - 574 225

[Signature]

PRINCIPAL

PRINCIPAL

Alva's Institute of Engg. & Technology,
Mijar, Moodabidri - 574 225, D.K

B. E. CIVIL ENGINEERING
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)

SEMESTER - III

BUILDING MATERIALS AND CONSTRUCTION

Course Code	18CV34	CIE Marks	40
Teaching Hours/Week(L:T:P)	(3:0:0)	SEE Marks	60
Credits	03	Exam Hours	03

Course Learning Objectives: This course will develop a student;

1. To recognize good construction materials based on properties.
2. To investigate soil properties and design suitable foundation.
3. To understand the types and properties of masonry materials and supervise masonry construction.
4. To gain knowledge of structural components like lintels, arches, staircase and roofs.
5. To understand the finishes in construction like flooring, plastering, painting.

Module-1

Building Materials: Stone as building material; Requirement of good building stones, Dressing of stones, Deterioration and Preservation of stone work. Bricks; Classification, Manufacturing of clay bricks, Requirement of good bricks. Field and laboratory tests on bricks; compressive strength, water absorption, efflorescence, dimension and warpage.

Cement Concrete blocks, Autoclaved Aerated Concrete Blocks, Sizes, requirement of good blocks.

Timber as construction material.

Fine aggregate: Natural and manufactured: Sieve analysis, zoning, specify gravity, bulking, moisture content, deleterious materials.

Coarse aggregate: Natural and manufactured: Importance of size, shape and texture. Grading of aggregates, Sieve analysis, specific gravity, Flakiness and elongation index, crushing, impact and abrasion tests.

Module-2

Foundation: Preliminary investigation of soil, safe bearing capacity of soil, Function and requirements of good foundation, types of foundation, introduction to spread, combined, strap, mat and pile foundation

Masonry: Definition and terms used in masonry. Brick masonry, characteristics and requirements of good brick masonry, Bonds in brick work, Header, Stretcher, English, Flemish bond, Stone masonry, Requirements of good stone masonry, Classification, characteristics of different stone masonry, Joints in stone masonry. Types of walls; load bearing, partition walls, cavity walls.

Module-3

Lintels and Arches: Definition, function and classification of lintels, Balconies, chejja and canopy. Arches; Elements and Stability of an Arch.

Floors and roofs: Floors; Requirement of good floor, Components of ground floor, Selection of flooring material Procedure for laying of Concrete (VDF), Mosaic, Kota, Slate, Marble, Granite, Tile flooring, Cladding of tiles.

Roof: Requirement of good roof, Types of roof, Elements of a pitched roof, Trussed roof, King post Truss, Queen Post Truss, Steel Truss, Different roofing materials, R.C.C. Roof.

Module-4

Doors, Windows and Ventilators: Location of doors and windows, technical terms, Materials for doors and windows: PVC, CPVC and Aluminum. Types of Doors and Windows: Paneled, Flush, Collapsible, Rolling shutter, Paneled and glazed Window, Bay Window, French window. Steel windows, Ventilators. Sizes as per IS recommendations.

Stairs: Definitions, technical terms and types of stairs: Wood, RCC, Metal. Requirements of good stairs. Geometrical design of RCC doglegged and open-well stairs.

Formwork: Introduction to form work, scaffolding, shoring, under pinning.

Module-5

Plastering and Pointing: Mortar and its types. Purpose, materials and methods of plastering and pointing: Sand faced plastering, Stucco plastering, lathe plastering, defects in plastering . Water proofing with various thicknesses.

Damp proofing- causes, effects and methods.

Paints- Purpose, types, technical terms, ingredients and defects, Preparation and applications of paints to new and old plastered surfaces, wooden and steel surfaces.

Course outcomes: After a successful completion of the course, the student will be able to:

1. Select suitable materials for buildings and adopt suitable construction techniques.
2. Decide suitable type of foundation based on soil parameters
3. Supervise the construction of different building elements based on suitability
4. Exhibit the knowledge of building finishes and form work requirements

Question paper pattern:

- The question paper will have ten full questions carrying equal marks.
- Each full question will be for 20 marks.
- There will be two full questions (with a maximum of four sub- questions) from each module.
- Each full question will have sub- question covering all the topics under a module.

Textbooks:

1. Sushil Kumar “Building Materials and construction”, 20th edition, reprint 2015, Standard Publishers
2. Dr. B. C. Punmia, Ashok kumar Jain, Arun Kumar Jain, “Building Construction, Laxmi Publications (P) ltd., New Delhi.
3. Rangawala S. C. “Engineering Materials”, Charter Publishing House, Anand, India.

Reference Books:

1. S. K. Duggal, “Building Materials”, (Fourth Edition) New Age International (P) Limited, 2016 National Building Code(NBC) of India
2. P C Vergese, “Building Materials”, PHI Learning Pvt.Ltd
3. Building Materials and Components, CBRI, 1990, India
4. Jagadish. K.S, “Alternative Building Materials Technology”, New Age International, 2007.
5. M. S. Shetty, “Concrete Technology”, S. Chand & Co. New Delhi.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS)
CIVIL ENGINEERING BOARD
BE-CBCS SYLLABUS 2017-18 Scheme

B.E Civil Engineering
Program Outcomes (POs)

At the end of the B.E program, students are expected to have developed the following outcomes.

1. **Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialisation to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
6. **The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of need for sustainable development.
8. **Ethics :** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary

settings.

10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognise the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

Program Specific Outcomes (PSOs)

At the end of the B.E Civil Engineering program, the students are expected to have developed the following program specific outcomes.

PSO1

The graduates will have the ability to plan, analyse, design, execute and maintain cost effective civil engineering structures without overexploitation of natural resources.

PSO2

The graduates of civil engineering program will have the ability to take up employment, entrepreneurship, research and development for sustainable civil society.

PSO3

The graduates will be able to pursue opportunities for personal and professional growth, higher studies, demonstrate leadership skills and engage in lifelong learning by active participation in the civil engineering profession.

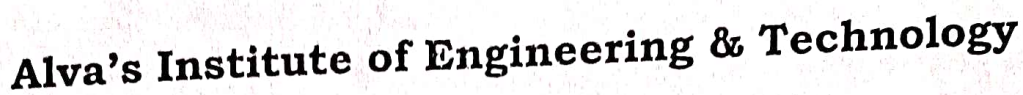
PSO4

The graduates will be able to demonstrate professional integrity and an appreciation of ethical, environmental, regulatory and issues related to civil engineering projects.

III SEMESTER STUDENT LIST 2020-2021

SL.NO	USN	NAME
1	4AL18CV014	MOHAMMED SHAHEER
2	4AL18CV023	NAMITH
3	4AL18CV020	IRSHAD
4	4AL18CV028	OMIN LONCHUNG
5	4AL18CV029	PRAJWAL D K
6	4AL18CV040	SHREE ANIL PATIL
7	4AL18CV048	WANGLEN WAIKHOM
8	4AL19CV044	M KIRANA KUMARA
9	4AL19CV045	SAGAR K G
10	4AL19CV001	ABDUL MUJEEB
11	4AL19CV002	ADITYA KULKARNI
12	4AL19CV003	AMEER HUSSAIN
13	4AL19CV004	ASHISH
14	4AL19CV005	BHUMIKA Y M
15	4AL19CV006	BONNY WANGKHEM
16	4AL19CV007	DHEERAJ S SINDHE
17	4AL19CV008	DUSHYANTH K V
18	4AL19CV009	HANAMANT R DODAMANI
19	4AL19CV010	HANUMESH
20	4AL19CV011	HRUTHIK M S
21	4AL19CV012	JENIYA KATH
22	4AL19CV013	KIRAN.R.MUNDARGI
23	4AL19CV015	MAILAR MALLESHAPPA
24	4AL19CV016	MALATESHA M
25	4AL19CV017	MANOHAR. M
26	4AL19CV018	MEGHA GL
27	4AL19CV019	MELLORY THOUDAM
28	4AL19CV020	ZISHAN CM
29	4AL19CV021	MONIKA H S
30	4AL19CV022	MUHAMMAD SAFWAN
31	4AL19CV023	NALAN JOSH DSOUZA
32	4AL19CV024	NIHARIKA.N

33	4AL19CV025	NIPSON YENDREMBAM (DINU)
34	4AL19CV026	POOJA. B. P
35	4AL19CV027	PRADEEP KUMAR D NATIKAR
36	4AL19CV028	PRAMOD H G
37	4AL19CV029	PRAVEENAKUMAR
38	4AL19CV030	R.S.SANOJ
39	4AL19CV031	RAKSHITH MA
40	4AL19CV032	SAGAR K
41	4AL19CV033	SANDEEP B NAIK
42	4AL19CV034	SANDEEP S PAVAR
43	4AL19CV035	SANGANAGOUDA N PATIL
44	4AL19CV036	SANJEEVAKUMAR GANAGER
45	4AL19CV037	SINDHOORKUMAR N NAIK
46	4AL19CV038	SOWMYA S NAIK
47	4AL19CV039	SUHAS R SHETTEPPANAVAR
48	4AL19CV040	TRUPTHI.A
49	4AL19CV041	VARUN GOWDA TV
50	4AL19CV042	VINAYKUMAR R KALAPPANAVAR
51	4AL19CV043	YOGESH BELGUMPI
52	LATERAL ENTRY	HARISH
53	LATERAL ENTRY	KARTHIK BANDAI
54	LATERAL ENTRY	CHETHAN M N
55	LATERAL ENTRY	PAVITHRA B T
56	LATERAL ENTRY	POOJA B
57	LATERAL ENTRY	POOJA SANJAY BALLARI
58	LATERAL ENTRY	MANJULA BASAVANAL
59	LATERAL ENTRY	PRERANA SHETTAR
60	LATERAL ENTRY	HARISH P N
61	LATERAL ENTRY	RAGHU
62	LATERAL ENTRY	KRUTHIK



Shobhavana Campus, Mijar, Moodbidri, D.K - 574225

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Department of Civil Engineering

SEMESTER—III (2017-2018)

Course Code: 18CV34

SEMESTER—III (2017-2018)
Course Name: BUILDING MATERIALS AND CONSTRUCTION

Course Teacher: Prof. SANTHOSH K

Course Outcomes: After studying this course, students will be able to,

CO-PO Mapping Matrix:

[illegible]



Alva's Institute of Engineering & Technology

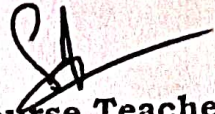
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Justification of Course Outcome and Program Outcome mapping:


Example

CO	POs	Level	Justification
18CV34.1	PO1	2	as it deals with basic ideas of building materials used in construction work student will be able to recognize the qualities of fundamental building materials used in construction work.
18CV34.2	PO1	2	As it deals with soil condition study which becomes a fundamental step in construction science and consideration for the public health and safety, and the cultural, societal, and environmental considerations are also made in construction its mapped moderately
18CV34.3	PO1	2	As it deals with Selection suggestion and supervision of materials by considering the requirements of society its mapped moderately
	PO3	2	As it deals with Selection suggestion and supervision of materials by based on the environmental considerations its mapped moderately
18CV34.4	PO1	2	This deals with fundamentals safety requirements for a building PO1 is mapped moderately
18CV34.5	PO1	2	As it applies knowledge of mathematics in designing of stairs and deals with safety measures implemented during construction and primary finishing works and hence CO365 is mapped moderately to PO1
	PO3	1	It will aid engineer to supervise the works of geometrical aspects of RCC dog legged and open-well stairs. Importance of scaffolding, shoring, underpinning and to take suitable engineering measures its mapped in slight way
18CV34.6	PO1	1	As it explain about finishing works in construction like plastering, painting, dampproofing which are based on basic knowledge of engineer its mapped in slight way


Course Teacher
Signature


IQAC Member
Signature


IQAC Chairman
Signature

<i>AIET</i>	<i>Lesson Plan & Execution</i>	
<i>Name of the Faculty</i>	<i>SANTHOSH K</i>	
<i>Subject Name & Code</i>	<i>BUILDING MATERIAS AND CONSTRUCTION (18CV34)</i>	
<i>Dept-Sem-Sec:</i>	<i>CV-3-A</i>	
<i>Date of Commencement</i>	<i>01 Oct 2020</i>	
<i>Last working day of Semester</i>	<i>27 Feb 2021</i>	
<i>Source Material List</i>		
<i>1</i>	Sushil Kumar “Building Materials and construction ”, 20th edition,reprint 2015,Standard Publishers	
<i>2</i>	Dr. B.C.Punmia, Ashok kumar Jain, Arun Kumar Jain, “Building Construction, Laxmi Publications (P) ltd., New Delhi.	

3	Rangawala S. C. “Engineering Materials ”, Charter Publishing House, Anand,India.
4	S.K.Duggal, “Building Materials ”, (Fourth Edition)New Age International (P)Limited, 2016 National Building Code(NBC) of India
5	Jagadish.K.S, “Alternative Building Materials Technology ”, New Age International, 2007.

Course Outcome

1	Recognize the qualities of fundamental building materials used in construction work.
2	Adopt suitable repair and maintenance work to enhance durability of buildings.
3	Select materials, suggest and supervise suitable type of lintels, arches, floor and roof works
4	Identify, locate types and sizes of doors, windows and ventilators as per IS standards.
5	Design and supervise the works of geometrical aspects of RCC dog legged and open-well stairs. Importance of scaffolding, shoring, underpinning and to take suitable engineering measures.
6	Explain about finishing works in construction like plastering, painting, and damp proofing.

Period	Planned			Execution		
	Date	Topic	Source material to be referred	Date	Topic	Source material to be referred
Module 1						
1	1	Stone as building material, Requirement of good building stones, Dressing of stones, Deterioration and Preservation of stone work	TEXT 3		Stone as building material, Requirement of good building stones, Dressing of stones, Deterioration and Preservation of stone work	TEXT 3
2		Bricks, Classification, Manufacturing of clay bricks, Requirement of good bricks	TEXT 3		Bricks, Classification, Manufacturing of clay bricks, Requirement of good bricks	TEXT 3
3		Field and laboratory tests on bricks, compressive strength, water absorption, efflorescence	TEXT 3		Field and laboratory tests on bricks, compressive strength, water absorption, efflorescence	TEXT 3
4		dimension and warpage, Cement Concrete blocks, Autoclaved Aerated Concrete Blocks, Sizes	TEXT 3		dimension and warpage, Cement Concrete blocks, Autoclaved Aerated Concrete Blocks, Sizes	TEXT 3
5		requirement of good blocks, Timber as construction material, Fine aggregate- Natural and manufactured- Sieve analysis, zoning	TEXT 3		requirement of good blocks, Timber as construction material, Fine aggregate- Natural and manufactured- Sieve analysis, zoning	TEXT 3
6		specify gravity, bulking, moisture content	TEXT 3		specify gravity, bulking, moisture content	TEXT 3
7		deleterious materials, Coarse aggregate- Natural and manufactured- Importance of size, shape and texture	TEXT 3		deleterious materials, Coarse aggregate- Natural and manufactured- Importance of size, shape and texture	TEXT 3
8		Grading of aggregates, Sieve analysis, specific gravity	TEXT 3		Grading of aggregates, Sieve analysis, specific gravity	TEXT 3
9		Flakiness and elongation index, crushing, impact and abrasion tests.	TEXT 3		Flakiness and elongation index, crushing, impact and abrasion tests.	TEXT 3
10		Flakiness and elongation index, crushing, impact and abrasion tests.	TEXT 4		Flakiness and elongation index, crushing, impact and abrasion tests.	TEXT 4
Module 2						
11		Preliminary investigation of soil, safe bearing capacity of soil	TEXT 2		Preliminary investigation of soil, safe bearing capacity of soil	TEXT 2
12		Function and requirements of good foundation , types of foundation	TEXT 2		Function and requirements of good foundation, types of foundation	TEXT 2
13		introduction to spread, combined	TEXT 2		introduction to spread, combined	TEXT 2

14		strap	TEXT 2		strap	TEXT 2
15		mat and pile foundation	TEXT 2		mat and pile foundation	TEXT 2
16		Definition and terms used in masonry, Brick masonry, characteristics and requirements of good brick masonry, Bonds in brick work, Header	TEXT 2		Definition and terms used in masonry, Brick masonry, characteristics and requirements of good brick masonry, Bonds in brick work, Header	TEXT 2
17		Stretcher, English, Flemish bond, Stone masonry	TEXT 2		Stretcher, English, Flemish bond, Stone masonry	TEXT 2
18		Requirements of good stone masonry, Classification, characteristics of different stone masonry, Joints in stone masonry	TEXT 2		Requirements of good stone masonry, Classification, characteristics of different stone masonry, Joints in stone masonry	TEXT 2
19		Types of walls, load bearing, partition walls, cavity walls	TEXT 2		Types of walls, load bearing, partition walls, cavity walls	TEXT 2
20		Types of walls, load bearing, partition walls, cavity walls	TEXT 3		Types of walls, load bearing, partition walls, cavity walls	TEXT 3
Module 3						
21		Definition, function and classification of lintels	TEXT 2		Definition, function and classification of lintels	TEXT 2
22		Definition, function and classification of lintels	TEXT 3		Definition, function and classification of lintels	TEXT 3
23		Balconies	TEXT 2		Balconies	TEXT 2
24		chejja and canopy	TEXT 2		chejja and canopy	TEXT 2
25		Arches	TEXT 2		Arches	TEXT 2
26		Elements and Stability of an Arch	TEXT 2		Elements and Stability of an Arch	TEXT 2
27		Floors, Requirement of good floor, Components of ground floor, Selection of flooring material, Procedure for Laying of Concrete (VDF), Mosaic	TEXT 2		Floors, Requirement of good floor, Components of ground floor, Selection of flooring material, Procedure for Laying of Concrete (VDF), Mosaic	TEXT 2
28		Floors, Requirement of good floor, Components of ground floor, Selection of flooring material, Procedure for Laying of Concrete (VDF), Mosaic	TEXT 3		Floors, Requirement of good floor, Components of ground floor, Selection of flooring material, Procedure for Laying of Concrete (VDF), Mosaic	TEXT 3
29		Kota, Slate, Marble, Granite, Tile flooring	TEXT 2		Kota, Slate, Marble, Granite, Tile flooring	TEXT 2
30		Cladding of tiles, Roof-Requirement of good roof, Types of roof, Elements of a pitched roof, Trussed roof	TEXT 2		Cladding of tiles, Roof-Requirement of good roof, Types of roof, Elements of a pitched roof, Trussed roof	TEXT 2

31		King post Truss, Queen Post Truss, Steel Truss, Different roofing materials, RCC Roof.	TEXT 2		King post Truss, Queen Post Truss, Steel Truss, Different roofing materials, RCC Roof.	TEXT 2
32		King post Truss, Queen Post Truss, Steel Truss, Different roofing materials, RCC Roof.	TEXT 3		King post Truss, Queen Post Truss, Steel Truss, Different roofing materials, RCC Roof.	TEXT 3
Module 4						
33		Location of doors and windows, technical terms, Materials for doors and windows, PVC, CPVC and Aluminum, Types of Doors and Windows	TEXT 2		Location of doors and windows, technical terms, Materials for doors and windows, PVC, CPVC and Aluminum, Types of Doors and Windows	TEXT 2
34		Location of doors and windows, technical terms, Materials for doors and windows, PVC, CPVC and Aluminum, Types of Doors and Windows	TEXT 3		Location of doors and windows, technical terms, Materials for doors and windows, PVC, CPVC and Aluminum, Types of Doors and Windows	TEXT 3
35		Location of doors and windows, technical terms, Materials for doors and windows, PVC, CPVC and Aluminum, Types of Doors and Windows	TEXT 4		Location of doors and windows, technical terms, Materials for doors and windows, PVC, CPVC and Aluminum, Types of Doors and Windows	TEXT 4
36		Paneled, Flush, Collapsible, Rolling shutter, Paneled and glazed Window	TEXT 2		Paneled, Flush, Collapsible, Rolling shutter, Paneled and glazed Window	TEXT 2
37		Paneled, Flush, Collapsible, Rolling shutter, Paneled and glazed Window	TEXT 3		Paneled, Flush, Collapsible, Rolling shutter, Paneled and glazed Window	TEXT 3
38		Bay Window, French window, Steel windows, Ventilators, Sizes as per IS recommendations.	TEXT 2		Bay Window, French window, Steel windows, Ventilators, Sizes as per IS recommendations.	TEXT 2
39		Definitions, technical terms and types of stairs- Wood, RCC	TEXT 2		Definitions, technical terms and types of stairs- Wood, RCC	TEXT 2
40		Metal, Requirements of good stairs	TEXT 2		Metal, Requirements of good stairs	TEXT 2
41		Geometrical design of RCC doglegged and open, well stairs.	TEXT 2		Geometrical design of RCC doglegged and open, well stairs.	TEXT 2
42		Introduction to form work, scaffolding	TEXT 2		Introduction to form work, scaffolding	TEXT 2
43		shoring	TEXT 2		shoring	TEXT 2
44		under pinning	TEXT 2		under pinning	TEXT 2
Module 5						
45		Mortar and its types, Purpose, materials and methods of plastering and pointing- Sand faced plastering	TEXT 2		Mortar and its types, Purpose, materials and methods of plastering and pointing- Sand faced plastering	TEXT 2

46		Mortar and its types, Purpose, materials and methods of plastering and pointing- Sand faced plastering	TEXT 2		Mortar and its types, Purpose, materials and methods of plastering and pointing- Sand faced plastering	TEXT 2
47		Stucco plastering, lathe plastering	TEXT 2		Stucco plastering, lathe plastering	TEXT 2
48		defects in plastering, Water proofing with various thicknesses	TEXT 2		defects in plastering, Water proofing with various thicknesses	TEXT 2
49		defects in plastering, Water proofing with various thicknesses	TEXT 2		defects in plastering, Water proofing with various thicknesses	TEXT 2
50		causes	TEXT 2		causes	TEXT 2
51		causes	TEXT 2		causes	TEXT 2
52		effects and methods	TEXT 2		effects and methods	TEXT 2
53		Purpose, types	TEXT 2		Purpose, types	TEXT 2
54		technical terms, ingredients and defects	TEXT 2		technical terms, ingredients and defects	TEXT 2
55		technical terms, ingredients and defects	TEXT 3		technical terms, ingredients and defects	TEXT 3
56		Preparation and applications of paints to new and old plastered surfaces, wooden and steel surfaces.	TEXT 2		Preparation and applications of paints to new and old plastered surfaces, wooden and steel surfaces.	TEXT 2
57		Preparation and applications of paints to new and old plastered surfaces, wooden and steel surfaces.	TEXT 3		Preparation and applications of paints to new and old plastered surfaces, wooden and steel surfaces.	TEXT 3

Faculty in charge

HOD's Signature

ALVA'S INSTITUTE OF ENGINEERING

MIJAR,

ND TECHNOLOGY

OODBIDRI - 574 225

ATTENDANCE CUM INTERNAL

Subject : B.MCT (18CV34)

Class : III - 2800

Subject : B.MCT (18CV34)

No. of Classes held : 37

No. of Classes held : 37			Date / Month																														
Sl. No.	U.S.N.	Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	18CV011	Mohammed Sheeb	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	18CV022	Namith	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
3	18CV020	M. Irshad	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
4	18CV028	Omin Lendung	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
5	18CV021	Brajwal D.K	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
6	18CV010	Shree Anil	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
7	18CV018	Nagendra Waiikom	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
8	19CV001	Abdul Mujeeb	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
9	19CV002	Adithya Kulakarni	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
10	19CV003	Ahmed Hussain	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
11	19CV004	Adhishish	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
12	005	Chumika Y.M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
13	006	Benny Wangyikem	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
14	007	Dharmraj S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
15	008	Dushyanth	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
16	009	Hanumanth RD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
17	010	Hanumesh	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
18	011	Himik. M.S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
19	012	Janiya	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
20	013	Kiran R.M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
21	015	Midar Malleshappa	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
22	016	Mallesh M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
23	017	Manohar M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
24	018	Megha. G.T	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
25	019	Mellory T	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
26	020	Zishan C.M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
27	021	Monika. H.S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
28	022	M. Safar	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
29	023	Nalan Josh	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
30	024	Niharika	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Staff Initials			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Students attendance

Produced	No. of Class Attended	% of Attendance	Internal Assessment (25)			Grand Average
			I	II	III	
	54	95	21	17	18	29
	53	93	17	17	19	28
	54	95	20	13	22	29
	55	96	16	18	23	29
	53	93	15	04	21	21
	53	93	16	17	18	27
	53	93	23	13	04	24
	54	95	21	20	26	33
	55	97	23	22	29	35
	54	95	27	24	24	35
	53	93	13	22	19	28
	57	100	24	27	30	37
	53	93	18	20	16	28
	55	97	19	21	25	32
	55	97	26	28	28	38
	55	97	21	23	24	33
	54	95	26	14	11	27
	57	100	29	29	30	40
	54	95	16	16	17	27
	56	98	16	12	25	28
	56	98	17	24	23	32
	57	100	29	29	30	40
	54	95	17	19	26	31
	55	97	21	23	27	34
	54	95	15	19	25	30
	55	97	09	18	17	25
	56	98	23	14	20	29
	54	95	22	18	27	33
	55	97	20	23	28	34
	54	95	16	24	26	32
	d	a	d	d	d	d

No. of Classes held :			Date / Month	$\frac{1}{10}$	$\frac{2}{10}$
Sl. No.	U.S.N.	Name		1	2
1	1960025	Nipson		1	2
2	026	Pooja B		1	2
3	027	Pradeep Kumar			
4	028	Pranod H.G.		1	2
5	029	Praveen Kumar		1	2
6	030	R.S. Sanoj		1	2
7	031	Rakshith MA		1	2
8	032	Sagar K		1	2
9	033	Sandeep B. Naik		1	2
10	034	Sandeep S Paval		1	2
11	035	Sanganagouda N		1	2
12	036	Sangeev Kumar		1	2
13	037	Sindhur Kumar		1	2
14	038	Sowmya S.N		1	2
15	039	Suhail R		1	2
16	040	Trupthi R		1	2
17	041	Varun Gowda		1	2
18	042	Vinay R.		1	2
19	043	yogesh		1	2
20	044	M. Harish kiran		1	2
21	045	Sagar. K.G.		1	2
22		Harish			
23		Chelvan.			
24		Korithik			
25		Harish. P.N			
26		Pavithra			
27		Manjula			
28		Prerna			
29		Pooja B.			
30		Pooja. B.S			
Staff Initials					

Subject :

[illegible]

Students Attendance		No. of Class Attended	% of Attendance	Internal Assessment (25)			Average Marks
Inducted				I	II	III	
48	60						
		51	89	09	18	14	24
		55	96	20	23	28	34
				AB	AB	AB	AB
		53	93	20	16	12	26
		56	98	25	23	22	35
		55	97	16	22	22	30
		54	95	17	17	15	27
		55	97	20	19	23	31
		54	95	13	24	28	32
		53	93	16	09	16	24
		54	95	17	20	26	31
		55	97	17	15	22	28
		54	95	20	25	24	33
		56	98	20	14	12	26
		58	93	10	20	25	29
		54	95	19	17	22	30
		56	98	24	24	30	36
		56	98	27	28	30	39
		52	91	16	12	17	25
		57	100	29	29	30	40
		55	97	21	25	26	34
			100	16	12	21	27
			100	24	18	29	34
			100	23	26	26	35
			100	24	20	27	34
			106	19	22	27	33
			100	19	20	21	30
			100	24	20	25	33
			100	21	25	20	32
			100	14	20	18	28
		12	12	12	12	12	12

Others	Planned	Actual	Remarks :
Special Classes	—	—	
Tutorials	—	—	
Assignments	03	04	
Seminars	02	02	
IA Tests	03	03	
Portions Covered in the entire Semester	100%.		

Course Effectiveness

Students Feedback			
Students Response			
Result	No. of Students AP	No. of Students Passed	% of Result
	62	58	94%.

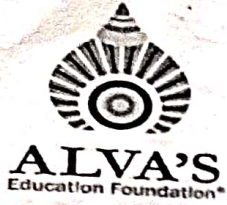

Faculty in Charge


Signature of Principal (& Remarks if any)

PRINCIPAL
Alva's Institute of Engg. & Technology
Mijar, Moodbidri - 574 225, D.K.


HOD's Signature

Dept. of Civil Engineering
Alva's Institute of Engg. & Technology
Mijar, Moodbidri - 574 225

USN : **ALVA'S INSTITUTE OF ENGINEERING TECHNOLOGY**

Shobhavana Campus, Mijar, Moodbidri, D.K - 574225

Department of Civil Engineering**I - Internal Assessment**

Semester : 3 Date : 18/11/2020

Subject Code: 18CV34

Time: 3 PM - 4.30 PM

Faculty : Santhosh K

Max Marks : 30

PART A

(Answer any 1 question)

Q.No.	Questions	Marks	CO	BT
1. a	Explain the importance size, shape and texture of coarse aggregates in concrete work.	8	CO1	L2
b	Briefly explain specific gravity test on Fine aggregates.	7	CO1	L2
2. a	Briefly explain impact test and Los Angeles abrasion test on coarse aggregates.	8	CO1	L2
b	Briefly explain grading of aggregates.	7	CO1	L2

PART B

(Answer any 1 question)

Q.No.	Questions	Marks	CO	BT
1. a	Briefly explain the quality of a good stone should possess when it is used for construction purpose.	8	CO1	L2
b	What is Bulking of sand? Mentioned the importance. Explain the size of sand grain on bulking of sand.	7	CO1	L2
2. a	Briefly explain different classification of stones.	8	CO1	L2
b	Write a short notes on elongation index and flakiness index of coarse aggregates.	7	CO1	L2

Faculty

HOD

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

Shobhavana Campus, Mijar, Moodbidri, D.K - 574225

Phone: 08258-262725, Fax: 08258-262726

DEPARTMENT OF CIVIL ENGINEERING

I. IA SCHEME

Sem: 3

Sub: BMCT

Sub Code: 18CV34

Date: 18/11/20

Time: 3-4.30 PM

Max Marks: 30

Module Covered: 1

CO's Covered: CO1 ~~CO2~~

1 a) Effect of Sizes on the concrete work - (2m)
with neat sketch.

Effect of shape of coarse & fine aggregate on
the strength & durability of concrete (2m)

Effect of ~~texture~~ Texture & their Requirement (2m)

1 b) Definition of Specific gravity - (1m)
Formula - (2m)

Procedure - (3m)

w_1 - Empty weight of Pycnometer

w_2 - Empty weight of Pycnometer + Sand

$w_3 =$ Pycnometer + Sand + water

$w_4 =$ Pycnometer + water

2 a)

Impact test

Procedure

(2m)

Formulae

(1m)

Tabular Column

(1m)

Los Angeles abrasion

Procedure

(2m)

Formulae

(1m)

Tabular Column

(1m)

2 b)

→ Type of grading

gap graded Agg.

Poorly graded Agg.

well graded Agg.

(3m)

→ Subst of gap, well & poorly graded aggregate - (3m)

• mention the suitable combination for good - (1m)

Concrete work

(8m)

- Crushing Strength -100 N/mm^2
- Durability
- Fracture
- Appearance
- Hardness
- Percentage of wear
- Seasoning
- Specific gravity
- Toughness index.
- water absorption.

Explain
~~write~~

any 8 points

3'b

Definition of Bulking of sand

(1m)


Principle of Bulking of sand

(2m)

Effects of size of sand grain
on bulking.


(3m)

Explain with help of graph


4a) Geological classification  (3m)

- ① Igneous Rocks
- ② Sedimentary
- ③ Metamorphic

Physical classification

→ Stratified Rocks
→ Unstratified Rocks
→ Foliated Rocks  (2m)

Chemical classification

→ Siliceous Rocks
→ Argillaceous Rocks
→ Calcareous Rocks  (2m)

4b)

Definition of elongation index - (1m)

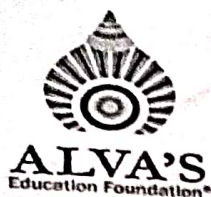
Importance of elongation index - (1m)

Brief procedure - (2m)

Definition of flatness index - (1m)

Importance - (1m)

Brief procedure - (2m)



ALVA'S INSTITUTE OF ENGINEERING TECHNOLOGY

Shobhavana Campus, Miljar, Moodbldri, D.K – 574225

Department of Civil Engineering

II – Internal Assessment

Semester : 3

Subject Code: 18CV34

Faculty : Santhosh K

USN :

Date : 22/12/2020

Time: 3 PM – 4.30 PM

Max Marks : 30

PART A

(Answer any1 question)

Q.No.	Questions	Marks	CO	BT
1. a	With a neat sketch explain combined footing and isolated footing	8	CO2	L2
b	Write the requirement of good mortar	7	CO2	L2
2. a	What are the special features of English bond? Explain with 1 brick thick wall.	8	CO2	L2
b	Differentiate between random rubble masonry and coursed rubble masonry	7	CO2	L2

PART B

(Answer any1 question)

Q.No.	Questions	Marks	CO	BT
1. a	Briefly explain different tests conducted on bricks	8	CO1	L2
b	Briefly explain different types Partition wall	7	CO2	L2
2. a	Briefly explain bull's Trench Kiln and Hoffman's Kiln:	8	CO1	L2
b	Briefly explain method of improving safe bearing capacity of soils	7	CO2	L2

CO1: Recognize the qualities of fundamental building materials used in construction work.

CO2: Explain the soil conditions; decide the suitable foundation for different structures. Identify and supervise different types of masonry works.


Faculty


IQAC


HOD



ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

Shobhavana Campus, Mijar, Moodbidri, D.K - 574225

Phone: 08258-262725, Fax: 08258-262726

DEPARTMENT OF CIVIL ENGINEERING

II

IA SCHEME

Sem: 3A

Sub: BMCT

Sub Code: 18W34

Date: 22/12/20

Time: 3 - 4.30 PM

Max Marks: 30

Module Covered: 1 & 2

CO's Covered: 1 & 2

a)

Combined footing definition

1m

Types - Rectangular

→ Trapezoidal

→ Combined column

2m

Sketch

2

Isolated footing

Definition of isolated footing - 1m

Types of isolated footing - 1m

Sketch

1m

b)

→ Consistency

→ mobility of mortar

→ Placability of mortar

→ Retaining adequate humidity

7m

→ water retention power

→ porosity.

2a) feature of English bond - 5m

(write 5 points)

Sketch → Top view

(3m)

→ front view.

2b)

Random Rubble masonry - 5 points - 5m

Sketch - 2m

write five difference b/w random rubble masonry & coursed rubble masonry

(5m)

Sketch - 2m

3a) - Absorption

- Crushing

- Hardness

- Presence of soluble salts

- Shape & size

- Soundness

Explain
any 4

(8m)

3b) Types of partition wall.

(8m)

- Bricks
- clay bricks
- concrete
- Gdaks
- Asbestos sheet
- timber sheet
- GI sheet

} Explain
with 2 or 3
line

4) a) Explain bell's trench. with 3 to 4 line - (2m)

Sketch - (2m)

Explain Hoffman's kiln with
working principle - (2m)

Sketch - (2m)

4 b) → method of load.

→ Plate load test

→ method of dropping
a weight

→ Analytic method

→

} (7m)



ALVA'S INSTITUTE OF ENGINEERING TECHNOLOGY

Shobhavana Campus, Mijar, Moodbidri, D.K - 574225

Department of Civil Engineering

III - Internal Assessment

Semester : 3

Subject Code: 18CV34

Faculty : Santhosh K

USN :

Date : 23/02/2021

Time: 3 PM - 4.30 PM

Max Marks : 30

PART A

(Answer any 1 question)

Q.N	Questions	M	CO	BT
1. a	Plan a dog legged staircase for a building in which the vertical distance between the floors is 3 m. The stair hall measures 2.8 m x 5.8 m	8	CO5	L3
b	Briefly explain causes for the dampness in building	7	CO6	L2
2. a	With the help of neat sketch explain following i) Framed and paneled doors ii) Revolving doors	8	CO5	L3
b	What is plastering and mention requirements of good plastering	7	CO6	L2

PART B

(Answer any 1 question)

Q.No.	Questions	M	CO	BT
3. a	With sketches explain various types of stair case	8	CO5	L3
b	With the help of neat sketch explain King post roof truss	7	CO4	L2
4. a	What are the factors considered while locating doors and windows	8	CO5	L3
b	Briefly explain classification of single roof	7	CO4	L2


CO4: Identify, locate types and sizes of doors, windows and ventilators as per IS standards.

CO5: Design and supervise the works of geometrical aspects of RCC dog legged and open-well stairs.

CO6: Explain about finishing works in construction like plastering, painting, and damp proofing.


Faculty


IQAC


HOD
(IQAC Chairman)

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

Shobhavana Campus, Mijar, Moodbidri, D.K - 574225
Phone: 08258-262725, Fax: 08258-262726

DEPARTMENT OF CIVIL ENGINEERING

III - IA SCHEME

Sem: II

Sub: BmCT

Sub Code: 18CV34

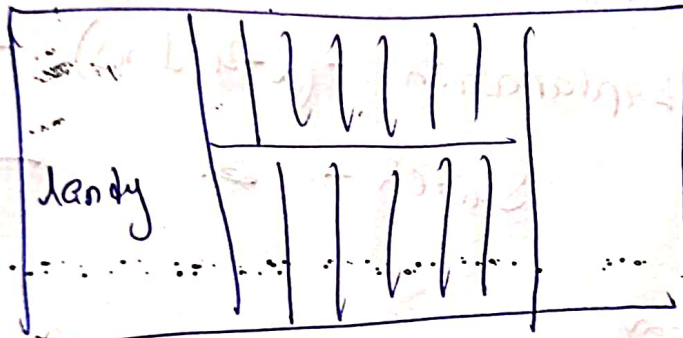
Date: 23/02/21

Time: 23/02/21 3-4:30 PM

Max Marks: 30

Module Covered: 3, 4, 5

CO's Covered: 4, 5



← going → landing

width of flight =

width of landing =

No. of treads =

No. of risers =

1b)

Raising of moisture

Action of rain

Rain beating against external wall

Condensation

Miscellaneous

Explain
briefly

(7m)

2a)

Framed & paneled door.

Explanation - (2-4 lines) - (2m)

Sketch - 2 - (2m)

Revolving door

Explanation - (2 to 4 line) - (2m)

Sketch - 2 - (2m)

2b)

Definition of plastering - (1m)

(7m)

~~write~~ → hard and durable

→ good workability

→ Cost efficient

→ possible to apply during

all weather

→ Straight Stair case

→ Turning Stair

- * Quarter turn
- * Half turn
- * Three Quarter
- * Bifurcate turn

→ Circular or helical Stairs

→ Geometrical Stairs

exp
Definition
Sketch

8m

3 b)

Sketch

mention the different component

when it is used

2m

2m

1m

4a)

Location of doors

Size of doors

Number of door or windows

type of building

briefly
explain

mention standard

Size of door

& windows

8m

Q

4b)

Single roof types

(7m)

- Lean to roof
- Couple roof
- Collar Beam roof
- Collar & Scissor roof

briefly
Explain with
Sketch



ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

(A Unit of Alva's Education Foundation)

Shobhavana Campus, Mijar - 574225, Moodbidri, D.K











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ASSIGNMENT BOOK

Branch : CIVIL ENGINEERING

Assignment Number	Date of Submission	Maximum Marks	10	Signature of the Student with Date	Signature of the Teacher with Date
		Marks Obtained			
1	24/11/2020	10		 24/11/2020	 24/11/20
2	9/12/2020	10		 9/12/2020	 9/12/20
3	30/12/2020	10		 30/12/2020	 30/12/20
4	19/1/2021	10		 19/1/2021	 19/1/21
5	9/2/2021	10		 9/2/2021	 9/2/21
Total Marks		50			
Average Assignment Marks		10			
Marks in words : Ten only					

Name

: Molatesha. M

USN

: LALI9CV016

Sem. & Section

: III Sem

Subject Name / Code

: Building Materials and Construction / 18CV34

Submitted to Prof.

: Prof. Santhosh K.

Assignment Marks

10

Max. Marks

10

[Signature]
Signature of Faculty

VISION OF THE INSTITUTE

"Transformative education by pursuing excellence in Engineering and Management through enhancing skills to meet the evolving needs of the community"

MISSION OF THE INSTITUTE

- To bestow quality technical education to imbibe knowledge, creativity and ethos to students community.
- To inculcate the best engineering practices through transformative education.
- To develop a knowledgeable individual for a dynamic industrial scenario.
- To inculcate research, entrepreneurial skills and human values in order to cater the needs of the society.

VISION OF THE DEPARTMENT

To become a leader in the field of Civil engineering by imparting quality education in developing highly competent manpower and promote research to meet the current and futuristic challenges in the civil engineering.

MISSION OF THE DEPARTMENT

M1: To impart knowledge by creating conducive teaching learning environment

M2: To produce civil engineering of high caliber, tech-savvy skill and ethical values to serve the society

M3: To promote innovation in the mode of futuristic engineering to face the challenges

COURSE OUTCOMES

CO1	Recognize the quality of fundamental building materials used in construction work
CO2	Explain the soil conditions decided the suitable foundation for type of structure. Identifying and preparing different types of soil conditions
CO3	Collect the material, suggest and prepare suitable type of foundation, arches, floor and roof
CO4	Identify local defects type over view of observation and work on the ground
CO5	Design and prepare the section of structural aspects of ecclesiastical and open well, stair, chimney and roof
CO6	Explain the importance of the construction like planning, particularly on finishing

Assignment - 01

Explain the importance of shape, size of texture of coarse aggregates in cement concrete making.

⇒ Size of aggregates:-

- * Bigger the size of particles less will be the surface area and hence less amount of water is required.
- * So bigger the size gives higher workability

⇒ Shape of aggregates:-

- * Angular, elongated & flaky aggregates make the concrete very harsh when compared to rounded & cubical aggregates.
- * It will have a less surface area and less voids.
- * Not only in that being in rounded in shape, the frictional resistance b/w the aggregates also reduced.
- * Hence the workability is more in case of rounded than compared to flaky aggregates.

⇒ Surface Texture:-

- * It is a property, the measure of which depends upon the relative degree to which particle surface are polished & dull, smooth & rough.

* Rough textured aggregates will show poor workability & smooth textured aggregates will give better workability because of lesser frictional resistance of inner surface particle.

2) Briefly explain test conducted on fine aggregates.

i) Sieve Analysis ii) Specific Gravity.

(i) Sieve Analysis:-

* Sieve Analysis is conducted to determine the particle distribution in a sample of aggregates which is also called as Gradation.

* The aggregates used for making concrete are nom of the maximum size 80mm, 40mm, 20mm, 10mm, 4.75 2.36mm, 600 micron, 300 micron and 150 micron.

* The aggregates fractions from 80mm to 4.75mm are termed as coarse aggregates and those fractions from 4.75mm to 150 micron are termed as fine aggregates.

* Sieves are placed one above the other, maximum size placed at the top and minimum size in the bottom.

* Sieving can be done either manually or by mechanical with sieve shaker.

* From the sieve analysis, the particle size distribution of sample is found out, from this fineness modulus can be determined.

* The sum of cumulative percentage retained on the sieve divided by 100 gives fineness modulus of given sample of aggregates.

Fine Sand :	2.2 - 2.6
Medium sand :	2.6 - 2.9
Coarse sand :	2.9 - 3.2

(ii) Specific Gravity:-

Determination of specific gravity of fine aggregates by pycnometer method:

Procedure:-

- Find the weight of an empty pycnometer with stopper. Let it be w_1 gml.
- Take about $\frac{1}{3}$ rd the volume of pycnometer full of sand. Find the weight of pycnometer with sand & let it be w_2 gm.
- Now fill the pycnometer to its half with H_2O so as to submerge the sand inside.
- Then fill the pycnometer with H_2O . Replace the stopper & find the total weight of pycnometer with its constituents & let it be w_3 gml.
- Remove the constituents from the pycnometer & clean it. Fill completely with water and replace the stopper. Find the weight with H_2O and let it be w_4 gml.

$$\text{Specific Gravity} = \frac{w_2 - w_1}{(w_4 - w_1) - (w_3 - w_2)}$$

Briefly explain test conduct on coarse aggregates.

(i) Impact Test:-

→ It gives the relative measure of the resistance of an aggregate to sudden shock or impact.

Apparatus:-

- Impact testing machine
- Cylindrical measure
- Tamping rod
- Balance

Procedure:-

- Over dry aggregate passing through 75mm IS sieve and retained in 10mm IS sieve are selected for the test.
- The cylindrical measure is filled by the sample aggregates

in three layers and each layer being tamped by 25 blows with rounded end of the tamping rod.

→ After tamping the third layer, the top surface is leveled using the tamping rod as straight edge. The test sample weight is taken as W_1 gms.

→ The cup of the test apparatus is placed in position on base plate and test sample is transferred to the cup, a single layer and being tamped 25 blows and top is leveled.

→ The hammer is raised until its lower face is 38 cm above the upper surface of the aggregate in the cup, & is allowed to fall freely on aggregate for 15 times at an interval not more than 2 seconds and not less than 1 second.

→ The crushed aggregate is removed from the cup and whole sample is sieved on 2.36 mm IS sieve, the material which passes this sieve is collected & taken as W_2 gms.

$$\text{Aggregate Impact value} = \frac{W_2}{W_1} \times 100$$

(ii) Shape Test:-

* Test for determination of flakiness index.

→ An aggregate having least dimension less than $\frac{3}{5}$ th of mean dimension is termed as flaky.

→ This test is not applicable to aggregates less than 60 mm.

→ This test is conducted by using a metal thickness gauge.

→ A sufficient quantity of aggregate is taken i.e. a minimum of 200 pieces of any fraction to be tested. Each fraction is gauged in terms of thickness on metal gauge.

→ The total amount of aggregate pieces passing through each gauge is weighed accurately.

i) Write the different steps involved in the manufacture of bricks

In the process of manufacturing bricks, the following four distinct operations are involved

a) Preparation of clay

b) Moulding

c) Drying

d) Burning

Preparation of clay:-

- Unsoiling
- Digging
- Cleaning
- Weathering
- Blending
- Tempering

Unsoiling:- The top layer of soil about 200mm in depth is taken out and thrown away. The clay in top soil is impure and hence it to be rejected for the purpose of preparing bricks.

Digging:- The clay is then dug out from the ground. It is spread out on the leveled ground, just a little deeper than the general level of ground. The height of heaps of clay about 600mm to 1200mm.

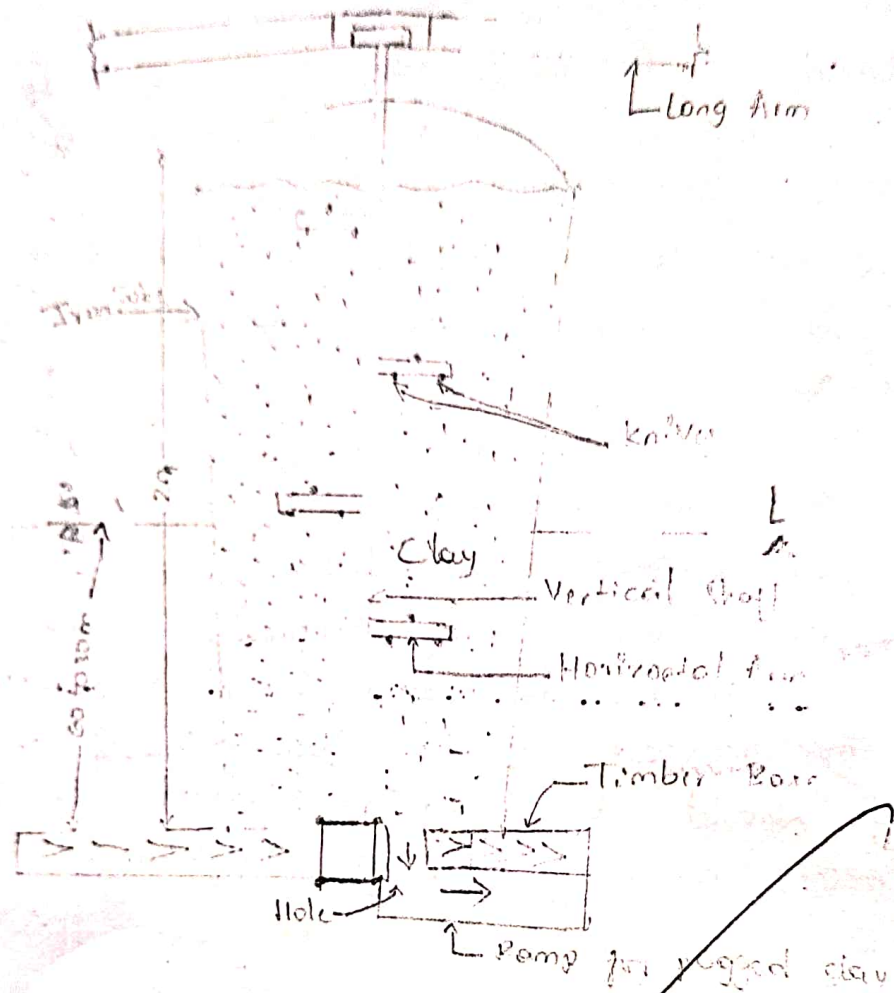
Cleaning:- The clay as obtained in the process of digging should be cleaned of stones, pebbles, vegetative matter. If these particles are in excess, the clay is to be screened. Such a process naturally will prove to be

troublesome and expensive. The lumps of clay should be converted into powder from pin the earth crushing roller.

Weathering:- The clay is made loose and any ingredient to be added to it, is spread out at the top. The blending indicates intimate or harmonious mixing. It is carried out by taking small portion of clay every time and turning the mixture up and down in the vertical direction. The blending makes clay fit for the next stage of tempering.

Tempering:- In the process of tempering, the clay is brought to a proper degree of hardness and it is made fit for the next operation of moulding. The water in required quantity is added to clay and the whole mass is kneaded or pressed under the feet of men or cattle. The tempering should be done exhaustively to obtain homogeneous mass of clay of uniform character.

Pug mill :-



Moulding :-

- That involves a liquid or malleable raw material by a fixed form
- The mold is generally a hollow cavity receptacle, commonly made of metal, where liquid plastic, metal, ceramic, or material is poured.

Following are the two ways of moulding:-

(i) Hand moulding:-

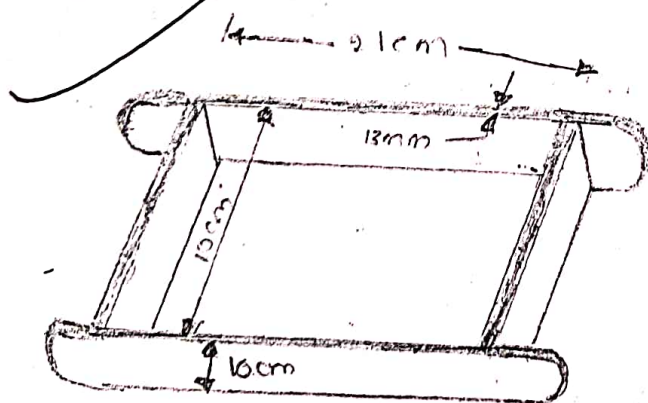
- ground moulded bricks
- Table moulded bricks

(ii) Machine moulding:-

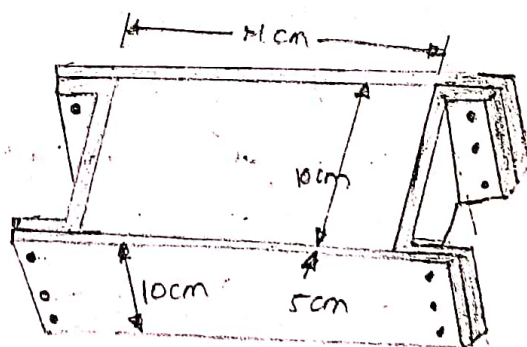
- Plastic clay machines
- Dry clay machines

Hand moulding

- The bricks are moulded by hand
- The ~~mod~~ moulds are rectangular boxes which are open at top and bottom. They may be of wood or steel.
- The bricks shrink during drying and burning
- Moulds are made larger than size of fully burnt bricks. The moulds are therefore made larger by about 8 to 12 percent in all directions.



(a) wooden mould.



(b) steel mould.

a) Ground-Moulded Bricks:

- The ground is first made level and fine sand is sprinkled over it.
- The mould is dipped in water and placed over the ground.

Write a short note on

o) Cavity wall:-

Cavity walls are constructed with two separate walls for single wall purpose with some space or cavity between them.

Advantages of cavity wall:-

- * Cavity walls give better thermal insulation than solid walls. It is because of the space provided. b/w the leaves of cavity wall is full of air and reduces heat transmission into the building from outside.
- * Economically they are cheaper than solid walls.
- * Moisture content in outer atmosphere is does not allowed to enter because of hollow space. b/w leaves, so, they also prevent dampness.
- * They also act as good sound insulators.
- * They also reduce the weight on foundation because of their lesser thickness.
- * Outer efflorescence is also prevented.

b) Partition wall:-

A partition wall is a ~~thin~~ thin internal wall which is constructed to divided the space within the building into areas.

Type of partition wall:-

- (i) Brick partition wall
- (ii) Reinforced Brick partition wall
- (iii) Clay Block partition wall

- (iv) Concrete partition wall
- (v) Glass partition wall
- (vi) Plaster lay partition wall
- (vii) Asbestos sheet partition wall
- (viii) Timber partition wall

A partition wall should fulfill the following requirements:

1. A partition wall should be strong enough to carry load.
2. The partition wall should be strong enough to resist to which of the building is likely to subject them.
3. The partition wall should have the capacity to a suitable decorative surface.
4. A partition wall should be stable and strong enough to support some wall.
5. A partition wall should be light.
6. A partition wall should be fire resistant.

Q) Briefly explain classification of Arches?

Types of Arches:-

- 1) Shape
- 2) Number of centres
- 3) Workmanship.
- 4) Material of construction.

Types of Arches based on shape:-

Based on the shape of construction arches are classified into 10 types & they are discussed below.

(i) Flat Arch:-

→ For flat arch, the intrados is apparently flat &

acts as a base of equilateral triangle which was formed by the horizontal angle of 60° by skewbacks

→ Even though intrados is flat but it is given that a slight rise of camber of about 10 to 15 mm per meter width opening is allowed for small settlements.

(i) Segmental Arch:-

→ This is the basic type of arch used for building in which centre of arch lies below the springing line

→ In segmental arch, the thrust transferred in inclined direction to the abutment

(ii) Semi-Circular Arch:-

• The shape of arch curve looks like semi-circular and the thrust transferred to the abutment is perfectly vertical direction since skewback is horizontal. In this type of arch the centre lies exactly on the springing line

(iv) Horse Shoe Arch

Horse shoe Arch is in the shape of horse shoe which curves more than semi-circle. This is generally considered for architectural provision.

(v) Pointed Arch:-

The other name of pointed arch is Gothic arch. In this type of arch 2 arcs of circles are met at the apex hence triangle is formed that may be either isosceles or equilateral.

- These are used up to spans of low
- These are made of rubble stones which are hammer dressed
- Sometimes there are also used relieving arches up to depth of 37.5 cm

(i) Ashlar Arch

- In this type, the stones are cut to proper shape & rounded and fully dressed.
- Ashlar stones are also used to make flat

2) Brick Arch

(i) Rough brick arch

- These are constructed with ordinary bricks without cutting to the proper rounded.
- It looks unattractive.
- That's why it is not recommended for exposed work.

(ii) Axed brick arch

- The bricks are cut into wedge shape with the help of brick axe.
- Arch formed by these axed bricks is not very perfect.

(iii) Gauged brick arch

- Bricks are cut to exact shape & size of required with the help of wire saw.

Assignment-04

1) Plan a doglegged stair for a building in which the distance between the floor is 3.3m. The stair hall is 2.7m x 5.4m

~~Solution:~~
Stair hall = 2.7m x 5.4m

floor height = 3.3m

* Since it is dog legged stair code
Number of flights = 2 Numbers

* Height of each flight = $\frac{3.3}{2} = \underline{1.65m}$

* Assuming the height of Riser is equal to 0.15m
 $= \frac{1.65}{0.15} = \underline{11 \text{ Numbers}}$

* Assume width of the tread = 30cm = 0.3m

Hence total length of going

$$= 0.3 \times 10$$

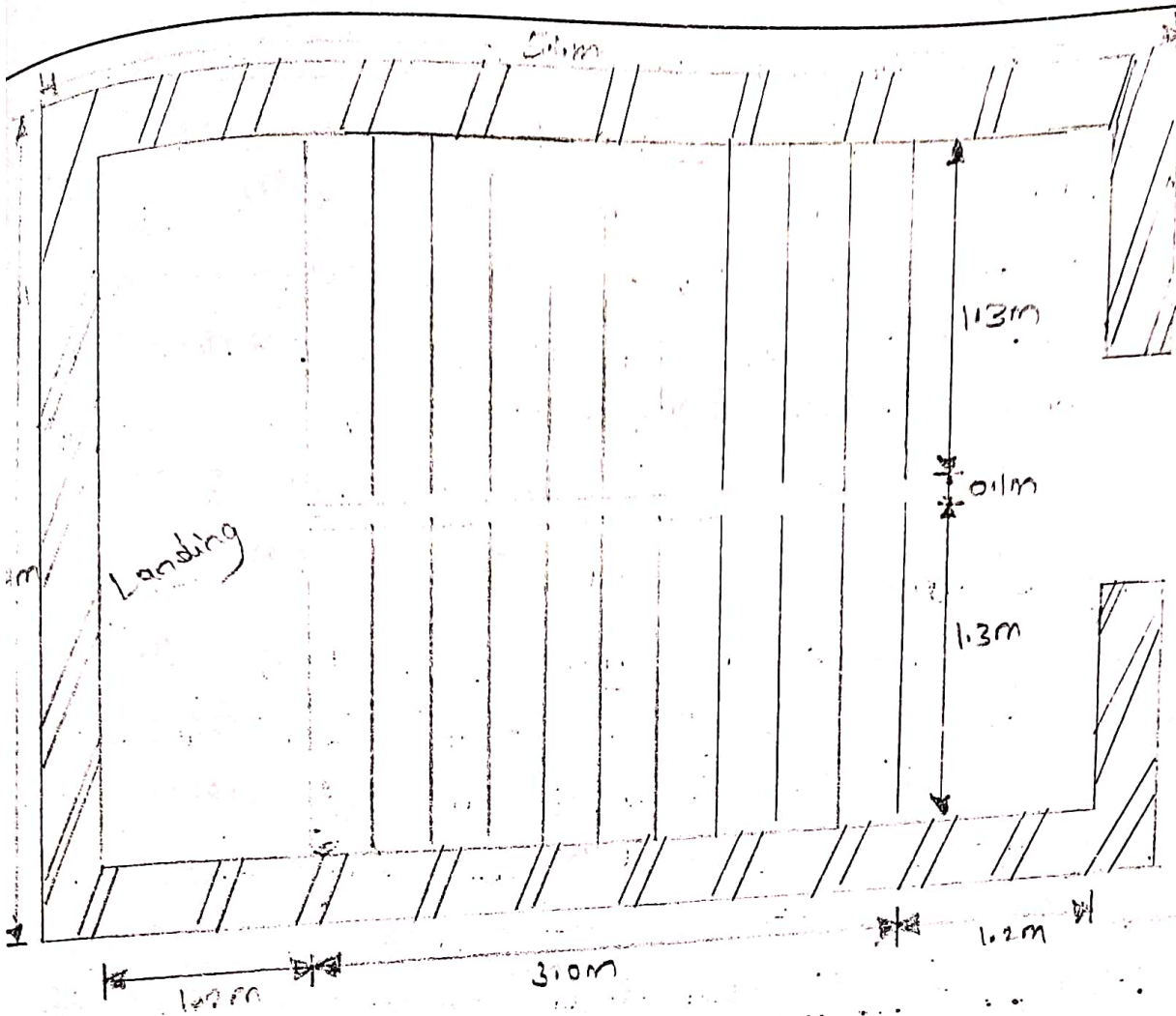
$$= \underline{3.0m}$$

* Space Remaining for landing

$$= 5.4 - 3.0 = \underline{2.4m}$$

* Hence providing 1.2m wide landing between flights

* Providing 1.3m wide flight hence space remain between flight is 0.1m.



Revolving door:-

Such doors are provided only in public buildings such as libraries, museums, banks etc., where there constant visitors such a door provide entrance to one and exit to the other person simultaneously and closes automatically when not in use. This door is also suitable for air-conditioned buildings or for buildings situated at a place where strong breeze blow through out the year since the door is so assembled that it excludes the wind draught. The door consists of a centrally placed mullion to which four radiating shutters are attached as shown. The mullion ^(a) vertical member is supported on ball bearings at the bottom and has bush bearing at the top. No friction is without any free friction.

PROGRAM OUTCOMES (POs)

PO1	Engineering knowledge: Apply the knowledge of mathematics, science, Engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
PO2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal and environmental considerations.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1	The graduate will have the ability to plan, analyze, design, execute and maintain cost effective civil engineering structures with out over run
PSO2	The graduate of civil engineering program will have the ability to take up employment for sustainable civil society
PSO3	The graduate will be able to pursue opportunities for personal and professional growth higher by active participation in the civil engineering
PSO4	The graduate will be able to demonstrate professional integrity and regulatory and issues related to civil engineering projects

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO1	To provide the students a strong foundation in fundamentals that will enable them to identify and solve civil engineering problems
PEO2	To develop abilities and talents, leading to creativity and productivity in professional and industrial field beyond the curriculum and thus in
PEO3	To explore and apply the modern engineering tools for planning, design and construction of technically and economically viable, sustainable and
PEO4	

Third Semester B.E. Degree Examination, June/July 2018
Building Materials and Construction

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing one full question from each module.

Module-1

- 1 a. What are the requirements of good building stone? Explain the dressing of stones. (08 Marks)
b. List the various tests conducted on coarse aggregate. Explain any one of them in brief. (08 Marks)

OR

- 2 a. Explain the different types of preservations commonly adopted in the preservation of stones. (08 Marks)
b. What are the requirements of good bricks and explain the field and laboratory tests on bricks. (08 Marks)

Module-2

- 3 a. Explain the essential requirements of a good foundation. (08 Marks)
b. With the help of neat sketches explain the various types of Joints used in stone masonry. (08 Marks)

OR

- 4 a. What is safe bearing capacity (SBC) of a soil? Briefly explain various methods adopted to improve SBC. (08 Marks)
b. Explain the following :
(i) Header, (ii) Flemish bond, (iii) Load bearing, (iv) Partition walls. (08 Marks)

Module-3

- 5 a. Define lintels and mention its function and classification. (08 Marks)
b. Sketch a King post truss made of timber, which has to support tile roofing. Name the components. (08 Marks)

OR

- 6 a. Give the classification of arches and explain stability of an arch. (08 Marks)
b. Discuss the various flooring materials used and explain any two of them in detail. (08 Marks)

Module-4

- 7 a. Briefly explain the factors to be considered while locating the position of doors and windows. (08 Marks)
b. With the help of a neat sketch briefly explain the dog legged staircase and its components. (08 Marks)

OR

- 8 a. With the help of a neat sketch explain the following :
(i) Wooden paneled door (ii) Collapsible door. (08 Marks)
b. Write a note on different types of stairs and explain the requirements of a good stair. (08 Marks)

Module-5

- 9 a. Briefly explain the purpose of plastering and explain the various methods of plasters. (08 Marks)
b. Explain in brief causes and effects of dampners in a building. (08 Marks)

OR

- 10 a. What are the objects of plastering and painting. (08 Marks)
b. Describe the different types of paints available in market and their specific usage. (08 Marks)

Third Semester B.E. Degree Examination, June/July 2019
Building Materials and Construction

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the factors causing deterioration of stonework. (06 Marks)
b. List the tests conducted on Fine aggregates. Explain any two tests in detail. (10 Marks)

OR

- 2 a. Write notes on :
(i) Stabilized Mud Blocks (ii) Grading of aggregates (iii) Timber as construction. (06 Marks)
b. List the tests on coarse Aggregates. Explain (i) Aggregate Impact test (ii) Aggregate Abrasion test. (10 Marks)

Module-2

- 3 a. What are the functions of good foundation? (05 Marks)
b. What are the requirements of good building stones? (05 Marks)
c. Briefly explain load bearing walls and cavity walls. (06 Marks)

OR

- 4 a. Define safe Bearing capacity. List the methods of improving bearing capacity of soil and explain any two methods. (08 Marks)
b. Find the dimensions of combined rectangular footing for two columns A and B carrying loads 1000 N and 1500kN respectively. Column A is 500mm × 500mm in size and column B is 600mm × 600mm in size. The centre to centre spacing of columns is 5.0m. The SBC of soil may be taken as 250 kN/m². The footing is not to project more than 250mm beyond the outer edge of smallest column. (08 Marks)

Module-3

- 5 a. Draw a neat sketch of an arch and explain various technical terms related to an arch. (08 Marks)
b. List the types of roofs and explain any two with neat sketches. (08 Marks)

OR

- 6 a. Define Lintel. Explain different types of lintels with neat sketches. (10 Marks)
b. Briefly explain the functions of Chejja, Canopy and Balcony. (06 Marks)

Module-4

- 7 a. What are the factors considered while locating Doors and windows? (05 Marks)
b. State briefly the requirements of a good stair. (05 Marks)
c. Explain with the help of sketches the following terms:
(i) Nosing (ii) Handrail (iii) Landing (iv) Newel post. (06 Marks)

Third Semester B.E. Degree Examination, June/July 2019
Building Materials and Construction

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing
ONE full question from each module.*

Module-1

- 1 a. Enumerate the importance of good building stone. (05 Marks)
b. Write a brief note on stabilized mud block. (05 Marks)
c. Mention the different test conducted on bricks and explain any two test. (10 Marks)

OR

- 2 a. Enumerate the functions of good mortar. (05 Marks)
b. Mention different types of surface finishes in stones. (05 Marks)
c. What is fineness modulus of fine aggregate? Explain the method to determine fineness modulus of fine aggregate. (10 Marks)

Module-2

- 3 a. What are the different types of joints in stone masonry? (05 Marks)
b. Define : i) header ii) Lap iii) Bat iv) Frog v) Arris. (05 Marks)
c. With neat sketch, explain combined footing and pile foundation. (10 Marks)

OR

- 4 a. Enumerate function of good foundation. (05 Marks)
b. Mention different types of partition walls. (05 Marks)
c. Draw the elevation of English and Flemish bond and compare English and Flemish. (10 Marks)

Module-3

- 5 a. Highlight the important qualities of good flooring materials. (05 Marks)
b. Discuss various modes of failures of an arch. (05 Marks)
c. Briefly explain laying of : i) concrete flooring ii) granite flooring. (10 Marks)

OR

- 6 a. Compare flat roof and sloped roof. (05 Marks)
b. Explain different types of lintels. (05 Marks)
c. What are the requirements of good roof? Draw a neat sketch of king post truss and show important elements. (10 Marks)

Module-4

- 7 a. State briefly the requirements of good staircase. (05 Marks)
b. Discuss importance of formwork in constructional activity. (05 Marks)
c. With neat sketch, explain impotence of i) Bay window ii) Collapsible door. (10 Marks)

Third Semester B.E. Degree Examination, Dec.2018/Jan.2019
Building Materials and Construction

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain physical and chemical classification of rocks. (08 Marks)
b. List and explain Laboratory tests on bricks. (06 Marks)
c. Explain bulking of sand. (06 Marks)

OR

- 2 a. Which are the constituents of good brick earth? Explain. (06 Marks)
b. What is Quarrying of stone? Explain methods of Quarrying. (08 Marks)
c. Explain the importance of shape, size and texture of coarse aggregates in cement concrete making. (06 Marks)

Module-2

- 3 a. What is foundation? Explain the functions of foundation. (06 Marks)
b. Explain strip footing and strap footing with sketches. (06 Marks)
c. What are the special features of English bond? Explain with 1½ brick thick wall. (08 Marks)

OR

- 4 a. What is pile foundation? Explain with sketches the classification of pile foundation based on its function. (06 Marks)
b. Differentiate between Random rubble masonry and coursed rubble masonry. (06 Marks)
c. Draw the plan of 1½ brick thick Flemish bond and explain its salient features. (08 Marks)

Module-3

- 5 a. Explain the following with sketches:
(i) RCC lintel (ii) Stone lintel. (06 Marks)
b. Discuss various modes of failure of an arch and what are its remedies? (06 Marks)
c. Draw the sketch of king post wooden roof truss (half part) and label its parts. (08 Marks)

OR

- 6 a. Mention the types of sloped roof. Explain any three types of sloped roof with sketches. (08 Marks)
b. What are the requirements of good floor? What are the components of ground floor with mosaic flooring? (06 Marks)
c. What is an arch? Draw the sketch of elemental arch. (06 Marks)

Module-4

- 7 a. Explain salient features of framed and panelled door with sketch (Double shutter). (08 Marks)
b. Differentiate between Bay window and corner window with sketches. (06 Marks)
c. What are the requirements of good stair? (06 Marks)