



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

CIVIL ENGINEERING

DEFINITIONS AND TERMINOLOGY QUESTION BANK

Course Name	:	BUILDING MATERIALS CONSTRUCTION AND PLANNING
Course Code	:	ACEB02
Program	:	B.Tech
Semester	:	III
Branch	:	Civil Engineering
Section	:	A & B
Academic Year	:	2019– 2020
Course Faculty	:	Mr. K AnandGoud, Assistant Professor Mr. K Tarun Kumar, Assistant Professor

COURSE OBJECTIVES:

The course should enable the students to:	
I	Develop knowledge of material science and behaviour of various building materials used in construction.
II	Identify the construction materials required for the assigned work.
III	Provide procedural knowledge of the simple testing methods of cement, lime and concrete etc.
IV	List the requirements and different types of stairs

DEFINITIONS AND TERMINOLOGY QUESTION BANK

S. No.	QUESTION	ANSWER	Blooms Level	CO	CLO	CLO Code
MODULE -I						
1	Define Porosity.	porosity may be described as the amount of openings(or) interstices (or) empty spaces present in a rock.	Remember	CO 1	2	ACEB02.02
2	Define permeability.	The permeability of a rock or soil defines its ability to transmit a fluid or water. Permeability depends on the porosity and interconnected pores character of the rock, thus more porous rocks are more permeable too.	Remember	CO 1	2	ACEB02.02
3	What is frog?	An indent called frog, 1 – 2 cm deep is provided for 9 cm height bricks only. The purpose of providing frog is to form a key for holding the mortar andtherefore, the bricks are laid with frogs on top. Frog is not provided in 4 cm high bricks	Remember	CO 1	1	ACEB02.01
4	Define Un-soiling.	The soil used for making building bricks should be processed and to be free from gravel, sand (> 2 mm) lime and kankar particles, organic matter etc.	Remember	CO 1	2	ACEB02.02

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5	What is Pugging?	Bricks tempering is done in Pug Mills and the operation is called Pugging.	Understand	CO 1	4	ACEB02.04
6	Define the term Efflorescence Test.	The brick is immersed in water for 24 hours. It is then taken out and allowed to dry in shade. The absence of grey or white deposits on its surface indicates the absence of soluble salts. If the white deposits cover about 10% surface, the efflorescence is said to be slight and it is considered as moderate when the white deposits cover about 50% of surface.	Understand	CO 1	1	ACEB02.01
7	What is Tempering?	In the process of tempering, the clay is brought to a proper degree of hardness. The tempering should be done exhaustively to obtain homogeneous mass of clay of uniform character.	Remember	CO 1	2	ACEB02.02
8	Define the term Soundness.	Stone, brick, concrete, hollow-tile, concrete-block, gypsum-block, or other similar building units or materials or a combination of the same, bonded together with mortar to form a wall, pier, buttress or similar mass.	Remember	CO 1	7	ACEB02.07
9	What is a Facing Bricks?	Facing Bricks are made primarily with a view to have good appearance, either of colour or texture or both. These are durable under severe exposure and are used in fronts of building walls for which a pleasing appearance is desired.	Understand	CO 1	1	ACEB02.01
10	Define Toughness test.	Hit the stone with a hammer and find how tough it is to break it with the hammer.	Understand	CO 1	1	ACEB02.01
11	What is a Pallet?	A thin board called pallet is placed over the mould.	Remember	CO 1	5	ACEB02.05
12	What is Refractoriness?	Refractoriness denotes the ability of a material to withstand prolonged action of high temperature without melting or losing shape. Materials resisting prolonged temperatures of 1580°C or more are known as refractory.	Understand	CO 1	1	ACEB02.01
13	Define Engineering Bricks.	Engineering Bricks are strong, impermeable, smooth, table moulded, hard and conform to defined limits of absorption and strength. These are used for all load bearing structures.	Remember	CO 1	1	ACEB02.01
14	Define flakiness index.	The flakiness or elongation index of an aggregate is defined as the percentage weight of particles in the given aggregate which has its length greater than 1.8 times and its least dimension (thickness) is less than 3/5 (or 0.6) times its mean dimension.	Understand	CO 1	2	ACEB02.02
15	Explain about Abrasion test.	This test is for the stones used in road construction. We use the Deval's abrasion testing machine or the Los Angeles abrasion machine for this purpose. It should not be more than 16 per cent for a good aggregate.	Understand	CO 1	1	ACEB02.01

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MODULE -II						
1	What is a good concrete?	A good concrete is one in which the ingredients are properly distributed to make a homogenous mixture and it should not show any sign of segregation or bleeding.	Understand	CO 2	1	ACEB02.01
2	Explain Properties of Fresh Concrete.	The concrete is a basic prime building material because of various properties being possessed during its hardened state which starts from the day it attains the full designed strength to the end of its life.	Understand	CO 2	5	ACEB02.05
3	What is curing? State its importance.	It is absolutely essential that moisture should be present in the initial stages for the Development of strength of cement. This process of supplying moisture environment is known as curing. Thus, curing of the products of cement is very important in all the works connected with cement like construction of masonry. Plastering, concreting, etc.	Remember	CO 2	5	ACEB02.05
4	What is White cement and where is it used?	White cement is made from chalk or limestone or shell lime free from impurities and white clays like china clay free from oxides of iron, manganese, etc. White cement is very much used for making of mosaic tiles, coloured cements, etc.	Remember	CO 2	5	ACEB02.05
5	What is Fresh concrete?	The fresh concrete or plastic concrete is the initial stage of concrete period and it is counted from the mixing stage till it is transported, placed, compacted and finished in the position.	Understand	CO 2	5	ACEB02.05
6	Define segregation.	Segregation can be defined as the separation of coarse aggregate from the main mass of concrete in the plastic stage and it occurs in case of dry mix of insufficient and non - uniform mixing.	Understand	CO 2	5	ACEB02.05
7	Define bleeding.	Bleeding is a form of segregation in which some of water in the mix tends to rise the surface of freshly placed concrete. This is because of the inability of the solid constituents of the mix to hold all the mixing water in the place when they settle downwards.	Remember	CO 2	5	ACEB02.05
8	What is Blended cement?	For economy, a mixture of Portland cement, blast furnace slag and fly ash is allowed to be used in some countries. It is known as blended cement. This type of cement is not marketed in India.	Understand	CO 2	6	ACEB02.06
9	What are the limitations of slump test?	It is not suitable for concrete made with aggregate size more than 40 mm. Not suitable for harsh mixes	Understand	CO 2	6	ACEB02.06
10	What do you mean by admixtures?	Admixtures are those ingredients in concrete other than Portland cement, water, and aggregates that are added to the mixture immediately before or after the concrete mix.	Understand	CO 2	6	ACEB02.06

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11	What is the main function of set retarders?	Slows curing rate. Used to counteract hot weather conditions that cause increased rate of hardening. This makes placing and finishing difficult.	Remember	CO 2	6	ACEB02.06
12	What is the composition of making the Mortar?	Mortar is a mixture of 3 materials i.e. cement, water and sand (P.C. + sand + water = Mortar), used in building for holding bricks or stones together.	Remember	CO 2	6	ACEB02.06
13	What is wet process?	Grinding and mixing of the raw materials in their wet state is called wet process	Understand	CO 2	6	ACEB02.06
14	Why the kiln is placed inclined in wet process?	The kiln is slightly inclined with horizontal so that the slurry coming from slurry tank can free fall with the gravity into the next process.	Understand	CO 2	5	ACEB02.05
15	What is dry process?	Grinding and mixing of the raw materials in their dry state is known as dry process	Remember	CO 2	5	ACEB02.05

MODULE -III

1	What is the combined footing?	A footing that supports two or more columns is called combined footing. A combined footing may be either rectangular or trapezoidal in shape.	Remember	CO 3	7	ACEB02.07
2	What are Purlins?	Horizontal roof members laid over trusses to support rafters.	Remember	CO 3	7	ACEB02.07
3	What is Flooring?	The exposed term surfaces of floors are termed as the Flooring.	Understand	CO 3	7	ACEB02.07
4	What is Bay?	The space between adjacent bents in a roof truss is called bay.	Remember	CO 3	8	ACEB02.08
5	What is the function of portal in bridge trusses?	Portal and sway bracing are there to provide additional stability.	Remember	CO 3	11	ACEB02.11
6	What is Footing?	A spread is given under the base of a wall or common is known as Footing.	Remember	CO 3	11	ACEB02.11
7	Define Raft foundation.	Raft foundation is the method of increasing the bearing power of soil when load coming on the soil is practically uniform	Remember	CO 3	11	ACEB02.11
8	What are the applications of raft foundation?	Raft foundations are useful for public buildings, office buildings, School buildings, residential quarters, etc.	Understand	CO 3	11	ACEB02.11
9	Define Foundation.	The part of a building constructed below ground level is known as Foundation.	Remember	CO 3	9	ACEB02.09
10	What is the use of Ground tracing?	is applied to the process of laying down certain lines and marks on the ground before the excavation of foundation trenches.	Remember	CO 3	9	ACEB02.09
11	Combined footing	A common footing provided for two or more columns is known as Combined footing.	Remember	CO 3	9	ACEB02.09
12	What is Plinth ?	The part of the building above the ground level and up to the floor level immediately above the ground is known as plinth.	knowledge	CO 3	9	ACEB02.09
13	What is Plinth area?	The built up area measured and the plinth level is known as Plinth area	Remember	CO 3	11	ACEB02.11

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14	What is Sub-structure?	The portion below the plinth level is known as Sub-structure.	Understand	CO 3	9	ACEB02.09
15	Define Eve.	The lowest edge of the sloping surface of roof is called Eve.	Remember	CO 3	10	ACEB02.10
MODULE -IV						
1	What is Sheeting?	The term Sheathing is used to indicate vertical members of timber in which directly resist pressure from the side of a Trench.	Knowledge	CO 3	12	ACEB02.12
2	What is the use of Sheet piling?	Sheet piling is used when large area is to be excavated for depth greater than 10 meters, soil to be excavated is soft or loose, width of the trench is also large and the subsoil water is present.	Remember	CO 3	15	ACEB02.15
3	What is seasoning?	Tree when felled contains sap and high moisture content. To use it for engineering purpose, it has to be dried. The process of drying timber to remove water is called seasoning.	Remember	CO 3	1	ACEB02.01
4	What is the use of annular rings?	Annular rings are formed every year and they consist of innumerable cells of fibres and tissues. Total number of annular rings indicates an age of tree. Narrow annular rings indicate the strength of tree.	Remember	CO 3	12	ACEB02.12
5	What is check?	Check is crack that does not extend from one end to another. A check that extends from one end to other is called a split.	Knowledge	CO 3	12	ACEB02.12
6	What is the reason for diagonal grain defect?	Diagonal grain is caused due to improper sawing of timber. It is indicated by diagonal marks on straight grained surface of the timber.	Understand	CO 3	12	ACEB02.12
7	What is a natural defect?	Natural defects are defects that occur within the growing tree and which can influence the strength and visual appearance of the surface of the timber. They are sometimes referred to as structural defects.	Understand	CO 3	7	ACEB02.07
8	How do you get rings out of wood?	To remove white rings left by wet glasses on wood furniture, mix equal parts vinegar and olive oil and apply it with a soft cloth while moving with the wood grain. Use another clean, soft cloth to shine it up.	Understand	CO 3	12	ACEB02.12
9	How long does it take for mold to grow on drywall?	Under ideal conditions (optimal temperature and level of humidity), it takes 24 to 48 hours for mold to germinate and grow. Typically, the spores begin to colonize in 3 to 12 days and become visible in about 18-21 days.	Remember	CO 3	12	ACEB02.12
10	Does standing water cause mold?	Water in Your Basement Can Lead to Mold. Mold needs just three things to grow: moisture, food, and optimal temperature. And it just so happens that standing water provides plenty of moisture to help promote mold growth, which is not only a nuisance, but also another risk to your health.	Understand	CO 3	2	ACEB02.02

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11	What are two methods of drying lumber?	Wood drying (also seasoning lumber or wood seasoning) reduces the moisture content of wood before its use. When the drying is done in a kiln, the product is known as kiln-dried timber or lumber, whereas air drying is the more traditional method. There are two main reasons for drying wood: Woodworking.	Remember	CO 3	2	ACEB02.02
12	What is the strongest brick bond?	Header Brick Bond. English bond is made up of alternating courses of stretchers and headers. This produces a solid wall that is a full brick in depth, is easy to lay and is the strongest bond for a one-brick-thick wall.	Remember	CO 3	11	ACEB02.11
13	How many types of bonds are in brickwork?	Types of Brick Bonds. Bonds are the horizontal patterns in which bricks are laid. There are five main types of bonds used in old buildings.	Remember	CO 3	2	ACEB02.02
14	What is zigzag bond?	ZigZag Bond. This bond is similar to herring – bone bond, except that the bricks are laid in zigzag fashion. This bond is commonly used for making ornamental panels in the brick flooring.	Remember	CO 3	2	ACEB02.02
15	How many bricks make a square Metre?	60 bricks, a half brick wide wall requires 60 bricks per square metre. So the first stage is just to measure the height and length (including any piers) of the wall in metres, multiply them together to give the area in square metres, and then multiply this by 60.	Remember	CO 3	15	ACEB02.15
16	What is half brick bonding?	All bricks in this bond are stretchers, with the bricks in each successive course staggered by half a stretcher. Headers are used as quoins on alternating stretching courses in order to achieve the necessary off-set. It is the simplest repeating pattern, and will create a wall only one-half brick thick.	Remember	CO 3	15	ACEB02.15

MODULE -V

1	Define Landing.	The horizontal platform between two flights of a Stair is known as the stair. A landing facilitates change of direction and provides an opportunity for taking rest during the use of a stair. Whereas, the vertical distance between two consecutive treads is known as Rise.	Understand	CO 5	16	ACEB02.16
2	What is the difference between staircase and stairwell?	A stairway and staircase mean the same thing and refer to a set of stairs between one floor and another. ... A "stairwell" usually refers to a set of stairs that are surrounded by walls, such as an emergency exit in an office building, hotel, or school	Remember	CO 5	16	ACEB02.16
3	Why is it called a stairwell?	A stair, or a stairstep, is one step in a flight of stairs. In buildings, stairs is a term applied to a complete flight of steps between two floors. A stair flight is a run of stairs or steps between landings.	Remember	CO 5	11	ACEB02.11

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4	What is Splayed step?	Splayed step has one end or both ends splayed in plan.	Understand	CO 5	16	ACEB02.16
5	What is meant by Built-up area?	It is also known as the Floor Space Index (FSI) or Floor Area Ratio (FAR). The value of built-up area is determined by local authorities and it may be different for different areas for different buildings of the town. Floor area means built up area excluding area of walls.	Remember	CO 5	16	ACEB02.16
6	Define the term Flier.	Flier is an ordinary step of rectangular shape in plan.	Remember	CO 5	16	ACEB02.16
7	What is meant by Building line?	A Building line usually parallel to the plot boundaries and laid down in each case by the Authority, beyond which nothing can be constructed towards the site boundaries.	Understand	CO 5	17	ACEB02.17
8	How do you calculate rise and run of stairs?	The finish floor represents the tread at the top of the stair, so the total run is the number of risers minus 1. Multiply the number of risers (3, in this example) by the the run length (10 inches, in this example): 3 X 10 inches = 30 inches for the total run.	Remember	CO 5	7	ACEB02.07
9	What are the different types of stairs?	Types of Stairs i. Straight Stairs. ii. L Shaped Stair. iii. L Shaped Winder Stairs. iv. Spiral Stairs. v. Curved Staircase.	Understand	CO 5	17	ACEB02.17
10	What is Quarter- turn stair ?	A Stair turning through one right angle is known as a Quarter- turn stair.	Understand	CO 5	17	ACEB02.17
11	What is Dog-legged stair?	A Stair turning through two right angles is known as a Dog-legged stair stair.	Understand	CO 5	17	ACEB02.17
12	What is Helical stair?	In Circular or Helical or Spiral types of stairs, the flight consists of winders only and they may be continued through any design number of turns. A spiral stair may be constructed of cast iron, mild steel or concrete.	Understand	CO 5	17	ACEB02.17
13	When the Spiral stairs are used?	The Spiral stairs are useful where the space available is limited and where the traffic is less.	Remember	CO 5	17	ACEB02.17
14	What is Escalator?	The stairs which are kept in motion by a revolving drum is known as a Escalator.	Remember	CO 5	17	ACEB02.17
15	What is bifurcated stairs	These stairs are so arranged that there is a wide flight at the start which is subdivided into narrow flights at the mid-landing. The two narrow flights start from either side of mid landing. Generally these stairs are more suitable for modern public buildings.	Remember	CO 5	17	ACEB02.17

Signature of the Faculty

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