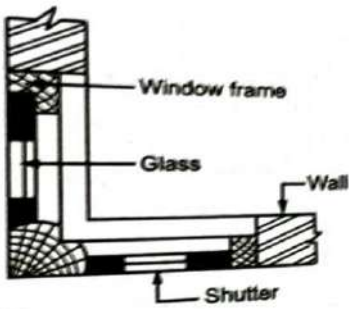
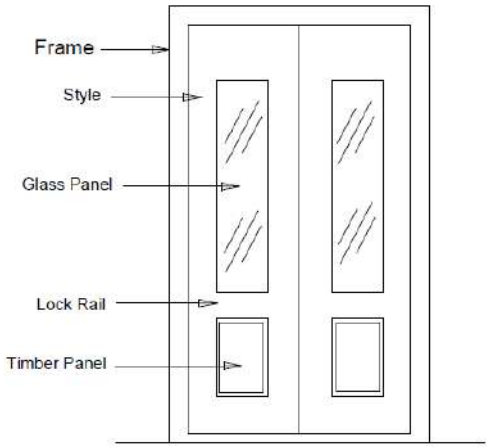
	https://shikshamentor.com/building-material-and-construction-sem-ii-msbte-k-scheme/ 312338 - Building Material and Construction (Sem II) As per MSBTE's K Scheme CE / CR / CS

Unit IV	Building Communication		Marks - 16
S. N.	MSBTE Board Asked Questions	Exam Year	Marks
1	Define Winders and Baluster.	W-22	2M
Ans.	Winders: Winders are the tapering steps, such as those which are used to change the direction of stair Baluster: It is vertical member of wood or metal, supporting the hand rails.		
2	Provide the names of any four means of vertical communication. OR State any four means of vertical communication.	W-22 W-17	2M
Ans.	Various means of vertical communication are Various means of vertical communication 1. Stairs: - Stair is a set of steps leading from one floor to the other. 2. Lifts:- It is a mechanical device which carries men and material from one floor to the other 3. Ramps: - It is the sloping surface used for easy connection between the floors. 4. Escalators: - It is a power driven inclined continuous stair-way used for raising and lowering passengers.		

3	**Suggest the type of window to be provided for obtaining light and ventilation from two adjoining sides. Draw sectional plan of suggested window.**	**W-22**	**6M**
Ans	**Type of window for obtaining light and ventilation from two adjoining sides:** **<u>Corner Window</u>**  		
4	**Define the terms 'Winder and Nosing' used in staircase.**	**S-22**	**2M**
Ans.	**<u>Winders:</u> Winders are the tapering steps, such as those which are used to change the direction of stair** **<u>Nosing:</u>Projecting edge of tread is normally termed as nosing**		
5	• **Draw labelled sketch of fully panelled door with frame for a opening size of 1200 mm 2200 mm. Assume suitable scale.** • **Draw neat sketch of fully panelled door.** • **Draw a neat sketch of fully panelled door in elevation for opening size 1200 × 2100 mm.** • **Draw a neat labelled sketch of fully panelled door in elevation.**	**S-22** **W-18** **W-19** **S-19** **W-17**	**6M**
Ans	 Partly Panelled and Partly Glazed Door		

6	**i) Suggest commonly adopted sizes of door for** **(1) Internal door of residential bldg.** **(2) Door of garage for car park.**	**S-22**	**2M**
Ans	**(1) Internal door of residential bldg.** **The *size* of an *internal door* of a *residential building* is *generally* (0.9 m x *2* m) to (*1* m x *2* m).** **(2) Door of garage for car park.** **Rolling Shutter**		
7	**Enlist different types of staircase. Explain any one type with a neat sketch.**	**S-22**	**6M**
Ans	**<u>Four types of staircase:</u>** **i) Dog legged staircase** **ii) Bifurcated staircase** **iii) Circular staircase** **iv) Spiral staircase** **v) Half turn stairs** **vi) Quarter turn stair** **<u>Doglegged staircase:</u>** **It consists of two straight flights of steps with sudden turn between them. The flights run in opposite direction and there is no space between them.** **These may be of two forms** **i) with half space landing** **ii) With quarter space landing & winders.**		

			
8	**Define the terms Newel post and Headroom in vertical Communication.**	**S-19**	**2M**
Ans	**Newel post:This is the vertical member which is placed at the ends of flights to connect the end of strings and hand rail.** **Headroom:The vertical distance between the nosing of one flight and bottom of flight immediately above is known as the headroom.**		
9	**Suggest suitable type of window for the following buildings:** **(i) Cinema hall** **(ii) School** **(iii) Enclosed staircase** **(iv) Bathroom** **(v) Cement godowns** **(vi) Sloping roof.** **(vii)Library of hostel** **(viii) Residential Bungalow**	**S-19**	**6M**
Ans	**1.Cinema hall – Fixed window** **2. School- Metal window / Sliding window** **3.Enlosed staircase- Fixed window / Metal window** **4.Bathroom- Louvered window** **5.Cement godowns- Fixed window** **6.Sloping roof-Dormer window**		

	7. Library of hostel -Glazed Window / Sliding window 8.Residential Bungalow- Glazed Window / Sliding window		
10	Define the terms 'Landing and Pitch' used in stair.	W-18	2M
Ans	Landing: - It is flat platform at the top or bottom of a flight between the floors. Pitch: - It is the angle which the line of nosing of the stair makes with floor.		
11	Discuss the provisions of doors in a structure with reference to the location and purpose.	W-18	4M
Ans.	1) Doors should be located in opposite walls facing each other. 2) Doors should be located near the corner of room nearly 20 cm away from the corner. 3) To achieve optimum utilization of room, the number of doors in a room should be kept minimum. 4) The location and size of the door should meet the functional requirements of the room.		
12	Draw neat sketches of any six fixtures and fasteners for doors and windows. OR Enlist and draw various fixtures and fastenings for doors and windows.	W-22 W-18	6M
Ans.	<u>Types of Fixtures and Fastenings for Doors and Windows</u> <u>Hinges</u> Hinge is fixture which helps the door to rotate freely along its axis. There are so many types of hinges are there which are as follows. 1. Butt Hinge 5. Rising Butt Hinge 2. Back Flap Hinge 6. Garnet Hinge 3. Counter Flap Hinge 7. Nar-Madi Hinge 4. Parliamentary Hinge 8. Spring Hinge		

Bolts

Doors or windows bolts are used to provide security for the rooms. Different types of bolts are described below

1. Hook and Eve Type Bolts 4. Barrel Bolt

2. Flush Bolt 5. Espagnalette Bolt

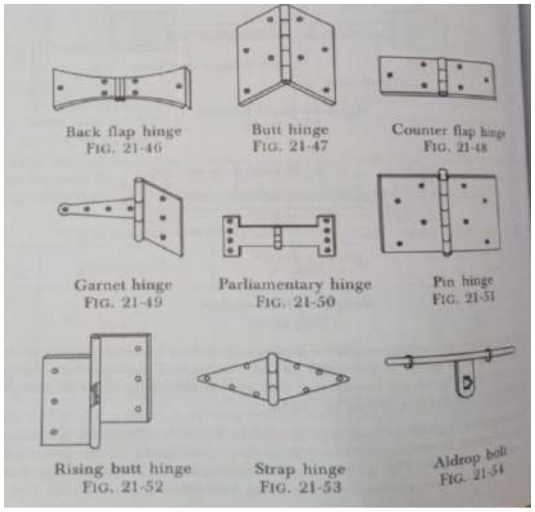
3. Aldrop Bolt 6. Hasp and Staple Bolt

Handles

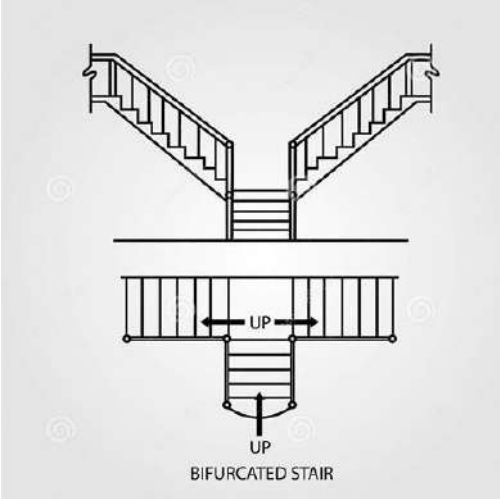
Handles are used to open or close the door or windows. There are many types of handles are available. Some of them are Bow type, Lever handle, Door handle, Wardrobe handle etc

Locks

Locks used for doors and windows are many types and some of them are padlock, mortise lock, rim lock, cupboard lock and lever handle lock etc.



13	Draw plan and sectional elevation of Dog-Legged staircase, assuming suitable dimensions and label its parts. Explain dog legged staircase with neat sketch.	S-22 W-19	6M
Ans			
14	Explain procedure of replacing glass of existing sliding window.	S-17	4M
Ans.	<u>Procedure for changing the glass of existing window.</u> 1. The sliding window consist of the aluminium shutters which moves on the rollers bearing provided horizontally or vertically on the tracks . 2. This shutter is made of aluminium frame of sections like U,L etc. 3. The glass is fixed in this section by using the bidding strip or the rubber gasket or silicon. 4. Broken glass is removed by removing the shutter from frame and glass from the shutter by removing bidding or rubber gasket. 5. New glass is fixed in the shutter and replaced in position again.		
15	Mention suitability and the neat labelled sketch of bifurcated staircase.	IMP Question	4M
Ans	<u>Suitability of bifurcated staircase.</u> 1. This type of stair is generally provided in the public buildings where the number of		

	users is more like colleges, hospitals, government offices etc. **2. This is also provided in some residential bungalows and hotel buildings too**  		
16	**State any four requirements of good staircase**	**IMP Question**	**4M**
Ans.	**<u>Following are the general requirments of good staircase:</u>** **1. Location- A stair should be located in buildings in a position where there is both light and ventilation.** **2. Materials- It should be constructed of sound materials and with good workmanship.** **3. Width of stair- Width of stair should be proper so as to carry the user without much crowed or inconvenience. Width of staircase depends on its location and type of building.** **4. Length of flight- A flight should not contain more than 12 steps or less than 3 steps to give comfort and safety.** **5. Pitch of stair- the ascent and descent of stair should be relatively easy and the proportions of going and rise should confirm to one of the following rules-**		

	Going in cm + 2 x Rise in cm = About 60 cm **Going in cm + Rise in cm = Approximately 400 to 410 cm** **6. Head room- Unobstructed vertical height must be provided (not less than 2.1 to 2.3 m)** **7. Step Dimensions- The rise and going should be of such dimensions so as to provide comfort to users. Going should not be less than 25 cm though 30 cm going is quite comfortable. The rise should be between 10 cm to 15 cm. Width of landing should not be less than the width of stair.** **8. Materials of construction- The material used for construction of stair should be such as to provide-** **1. Good workmanship** **2. Sufficient strength** **3. Fire Resistance**		
17	**Enlist any four component part of staircase.**		**2 M**
19	**i) Headroom** **ii) Tread** **iii) Rise** **iv) Going** **v)Soffit** **vi) Baluster** **vii) Handrail** **viii) Flight**		

19	**State the suitability of escalation and ramp.**		**4 M**
Ans.	**Escalation:** **Escalators may be used in building where there is a continuous heavy traffic flow, such as exhibition hall, race courses, airports, departmental stores, stations, office building, etc.** **Ramps:** **Ramps are provided at places such as garages, railway stations, town halls, office building, hospitals, stadiums, etc. where movement of large number of vehicles or persons is likely to occur.**		

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