

SEC-3

Q2

Ans A. Ventilation:-

1. Ventilation may be defined as supply of fresh outside air an enclosed space or the removal of inside air from the enclosed space.
2. In other words, ventilation is the removal of all vitiated air from a building and its replacement with fresh air.
3. Ventilation may be achieved either by natural or by artificial (or mechanical) means.

B. Factors:

1. Air Changes:

- (i) The rate of air change will depend upon the volume of structure / type of activity in the premises, number of persons occupying the premises, etc.
- (ii) It will also depend on the velocity of incoming fresh air and quantity of heat, moisture and odour present in the room.

2. Humidity:-

1. The criteria of relative humidity of air also affect the ventilating system of the structure.

2. For working at temperature  $21^{\circ}\text{C}$ , a range of 30 to 70 per cent of relative humidity is desirable.

(3) The value of relative humidity is obtained by comparing dry-bulb and wet bulb temperature, the lower humidity and greater air movement are necessary for removing greater portion of heat from the body.

### 3. Quality Air:

(1) The purity of air plays an important role in the comfort of persons affected by ventilation.

(2) The ventilating system should be so designed that it give comfort to the occupants by giving pure air.

### (4) Temperature:

(1) It is quite evident that the incoming air for ventilation should be cool in summer and warm in winter before it enters the room.

(2) The popular values of effective temperature in winter and summer are  $20^{\circ}\text{C}$  and  $22^{\circ}\text{C}$  respectively.

### 5. Use of Building:

The quantity of fresh air to be supplied to a room depend on the uses of building and it is to be decided by taking into consideration various factors such as number of occupants, type of activity etc.

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Ans

A. Ventilators

1. Vent.

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3. in

stack effect

Place a storage of 30 to 70  
is desirable.

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classmate

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wall and it need be in

give better ventilation due to

4. In slopping or pitched roofs ventilators should be fixed at the ridge. The effectiveness of the roof ventilators depend on their location, wind direction and height of the building