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Solution:

External Length of building
 $= 14 + 14 + 2(1.25 + 0.75)$
 $= 31\text{ft}$

External Breadth of building
 $= 12 + 8 + 2(1.25 + 0.75)$
 $= 23$

plinth area of building $= 31 \times 23$
 $= 713\text{ft}^2$

Rate of Construction
 $= \text{Rs } 300/\text{ft}^2$

Cost of Construction $= 713 \times 300$
 $= 213900/-$

Water Supply & Sanitary
 10%
 $= 213900 \times 10/100$

$= \text{Rs } 21390$

Cost of electric Supply
 10%
 $= 21390 \times 10/100$

$= \text{Rs } 21390$

Cost of gas supply is 5%

$$= 213900 \times \frac{5}{100}$$

$$= 10695 \text{ R}$$

$$\text{Total Cost} = 213900 + 21390 + 10695 \\ = 267375 \text{ R}$$

Contingencies 3% of Total cost

$$= 267375 \times \frac{3}{100}$$

$$= 8021.25$$

$$\text{Grand Total} = 267375 + 8021.25$$

$$\Rightarrow 275396.25$$

For one room
Step 01 = (Wall height)

For four rooms:-

$$= 14 + 14 + 12 + 12$$

$$= 52 \text{ Feet} = 15.8496 \text{ m}$$

Step 02

(Total area of wall doors)

$$\text{Total area of wall} = L \times H$$

$$= 52 \times 3$$

$$= 15.8496 \times 3$$

$$= 47.5488 \text{ m}^2$$

$$\text{Total area of door} = 2 \times 1$$

$$= 2 \text{ Sq. m}$$

Step 3

$$\text{Plaster Area} = \text{Area wall} - \text{area of door}$$

$$= 47.5488 - 2$$

$$= 45.5488 \text{ Sqm}$$

$$1 \text{ Sqm} = 10.76 \text{ Sqft}$$

$$45.5488 \times 10.76 = 490.105 \text{ Sqft}$$

For Second ~~room~~ room

Some Sloped Should
Be Followed

For Bath & kitchen.

Step 01 :- (Total wall length)

$$\text{Bath} = 4 + 8 + 4 + 8$$

$$= 24 \text{ feet} = 7.31 \text{ m}$$

$$\text{Kitchen} = 16 + 8 + 8$$

$$= 32 \text{ ft} = 9.45 \text{ m}$$

Step 02 (Total area of
wall Door)

Total Area of wall for kitchen

$$= L \times H$$

$$= 9.45 \times 3$$

$$= 29.25 \text{ m}^2$$

Total area of wall for
bath

$$= L \times H$$

$$= 7.31 \times 3$$

$$= 21.93 \text{ m}^2$$

Step 03

Plaster Area for Kitchen

= Area of wall - Area of door

$$= 29.25 - 2 = 27.25$$

$$27.25 \times 10.76 = 296.1152 \text{ ft}^2$$

Plaster Area Bath

$$= 21.93 - 2 = 19.93 \text{ m}^2$$

Changing ft to mst will be

$$214.4468 \text{ ft}$$

For Total external area

= plaster area of one room
+ Plaster area of 2nd room
+ RA of kitchen + p.A. of Bath

$$\Rightarrow 490.105 + 490.105 + 296.1152 + 214.4468$$

$$\Rightarrow 1490.772 \text{ ft}^2$$

Step 01

(Length of bar 12mm bottom bar)

Length of Steel 12mm

(Length of beam - cover) × No
of bar

$$= (4000 - 2(30)) \times 2$$

$$= 7880 \text{ mm}$$

or 7.8 m

Step = 02 :-

(Length of bar 10mm top bars)

Length of Steel 10mm

(Length beam - cover) × No of bar

$$= 4000 - 2(30) \times 2$$

$$= 7880 \text{ mm}$$

Step = 3 :-

Weight of bar 12mm

Weight of bar

$$\left(\frac{d^2}{162} \times L \right)$$

$$= \frac{12^2}{162} \times 7.8 = 6.93 \text{ kg}$$

Step = 04

(Weight of bar 10mm Top bar)

$$\left(\frac{d^2}{162} \times L \right)$$

$$= \left(\frac{10^2}{162} \right) \times 7.8$$

$$= 4.8 \text{ kg}$$

Step = 05

For stirrups:-

$$\left(\frac{\text{No of stirrups}}{\text{Length of beam / spacing}} \right) + 1$$

$$= \left(\frac{4000}{200} \right) + 1$$

$$= 21 \text{ Nos}$$

Step = 06

Cutting length

$(2(x)) + (2)(y) + \text{hook } (10d) \cdot \text{bend}$
(2d if 90 degree)

$$\Rightarrow (2 \times 142) + (2 \times 142) + (2 \times 10 \times 8) - (5 \times 2 \times 8)$$

$$= 284 + 284 + 160 - 80$$

$$= 648 \text{ mm} \quad \text{or} \quad 0.648 \text{ m}$$

$$\text{Step} = 0.7$$

(Total length of
streeps)
cutting length \times No. of strips

$$= 0.648 \times 21 = 13.608 \text{ m}$$

$$\text{Step} = 0.8$$

(Weight of stirrups)

$$\left(\frac{d^2}{162} \right) \times L$$

$$= \left(\frac{8^2}{162} \right) \times 13.608$$

$$5.376 \text{ kg.}$$

Solutions.

Step = 01

Effective length =

$$\text{Eff. length (x)} = \text{length} - b/\text{side cover}$$

$$= 2000 - 2 \times 50 = 1900 \text{ mm}$$

$$\text{Eff. length (y)} = 2000 - 2 \times 50 = 1900 \text{ mm}$$

Step = 02

No. of Bar ::

$$\text{No. of Bar (x)} = \frac{\text{Eff. length}}{\text{spacing}} + 1$$

$$= \left(\frac{1900}{150} \right) + 1 = 13.6$$

= 14 Nos.

$$\text{No. of Bar (y)} = \frac{\text{eff length}}{\text{spacing}} + 1$$

$$= \frac{1900}{150} + 1 = 13.6$$

= 14

Step = 03

along Cutting Length
(x) = [eff. length + bends]

ben deduction

$$1900 + 2(300 - 50 - 50) - (2(2 \times 12))$$

$$= 2252 \text{ mm or } 2.25 \text{ m}$$

Along (y) = [eff length + bends] -

$$= 1900 + 2(300 - 50 - 50) - (2(2 \times 12))$$

bend deduction 2x }

$$= 2252 \text{ mm}$$

$$= 2.25 \text{ m}$$

S.No	Type	dia	Height	Height in mm	Height in mm	Total Length	Weight in lbs	Part No	Material
1	x-dia	12	14	2.25	22.5	18.0	20	10/102	10/102
2	y-dia	11	14	2.25	22.5	18.0	20	10/102	10/102
Total									Batch
Add									20/0
Sub									
Weight									44kg

Q = 4

Part (B)

Sol:-

Value of plot = 350000/-

Rate of rent = 6%

Annual rent for plot = $\frac{350000 \times 6}{100}$

= 21000/-

Value of building structure = 200000

Rate of rent = 8%

Annual rent for structure = $\frac{200000 \times 8}{100}$

= 33600

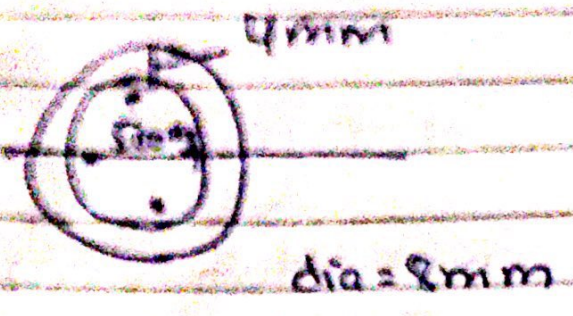
Total Annual rent = 21000 + 33600

= 54600

= $\frac{546000}{12}$ = 45500

Sol.

Circular Column



dia of column = 800mm
 dia of stirrup ϕ =

$$m - (2 \times 40) - (4 + 4) = 420 \text{ mm}$$

parameter of stirrup.

$$Td = 3142 \times 420 = 1319.64 \text{ m m}$$

Hook length = 100

$$10 \times 8 = 80 \times 2 = 160 \text{ mm}$$

Cutting length of stirrup =

parameter of stirrup + Hook L

$$\Rightarrow 1319.64 + 160 \text{ mm}$$

$$= \frac{1479.64}{1000} = 1.4796 \text{ m.}$$

Main types of Alternative Dispute Resolution:-

Arbitration:-

Arbitration is the adjudication of dispute by one or more specially appointed experts or layers.

Arbitration involves an independent third party who actually makes suggestion or actually impose a decision on the parties.

People who work as arbitrators often belong to the Chartered Institute of Arbitrators.

Arbitrators Act - 1996, S-1 :-

The object is to be obtained the fast resolution of dispute by an impartial without necessary delay or expensive.

(A) The parties should be free to agree how their dispute are resolved. Subject only to such safeguards as are in the public interest.

(B) In matters governed by this Part the court should not intervene except as provided by a part.

CHOOSING AN arbitrator

Parties are free to decide between themselves whom they will appoint as a an arbitrator.

Where there is no agreement a party can apply to a court under the Arbitration 1996. 18 have one appointed by the court.

Arbitration By Contract

Arbitration is a process where the parties to a contract sign a clause in the contract where they agree to refer any dispute of contract to arbitration.

Such a clause is sometimes known as a Scott Avery clause.

Arbitration - As a Trade Practice

It is common in many trade practices.

For instance many insurance policies contain a clause stating that any dispute over a claim will first be referred to an arbitrator before any court is made.

Special Types

MEDIATION:

A dispute parties in their dispute may refer to an independent third party who will act as go-between.

Mediation involves an impartial third party who listens and directed discussion but does not suggest outcomes.

Mediation is not binding.

They have two more types unsuitable for mediation. E_1
Mod - Arb

CONCILIATION:

If parties in litigation refuse an offers of conciliation without good reason they even

they win their case
the judge can refuse
to award them some or
all of their legal costs.
Conciliation is not binding

Negotiation:

it requires parties
to bargain without outside
assistance exchanging
compromises to reach a
solution. In this approach
parties can begin bargaining
discussion at the bargaining
of dispute without the
presence of legal representation

Neutral Evaluation.

its usually involve a third party
logically on some body
an opinion or the
likely outcome of the
case went to trial.

Parties will this
opinion as basis for
trying to settle their
dispute out of court.

Ombudsmen

There are a number
of ombudsmen appointed
by Parliament.

They investigate
complaints against government
departments local councils
E.g. certain industries.

Avoidance

This is an intentional plan to avoid development of resentment by positively out critical issue without independently challenging or unsettling other party

Advantage of alternative

dispute resolution :-

Usually ϵ less
costly. Faster

• The people have chance to tell their story as they see it

• it's more flexible ϵ responsive to individual needs of the people involved

• it's more informal.

• The Confidential nature of the process.

• The parties involvement in the process is greater. Commitment to the result so that compliance is more likely.

Sometimes people become involved in a dispute which is important to them although very concerned about the matter. These are often resolved outside the court system. Comparatively expensive.

Some disputes do not have a legal solution while others may be made workable by court action. There are a number of advantages of alternative dispute Resolution in general over litigation.

Disadvantages of ADR :-
(Alternative dispute resolution)

It can be used as a stalling tactic.

Parties are not compelled to continue negotiations in mediation.

Does not produce legal precedents.

Exclusion of parties weakens final agreement.

Parties may have limited bargaining power.