Total No. of Printed Pages:1

SUBJECT CODE NO:- E-712 FACULTY OF ENGINEERING AND TECHNOLOGY

T. Y .Arch Examination Nov/Dec 2017 H.S.S.

[Tin	ne: Three Hours] [Max.Marks:10	0[0
N.B	Please check whether you have got the right question paper. 1. Answer any FIVE questions. 2. All questions carry equal marks. 3. Draw sketches wherever necessary.	
Q.1	Write short notes on any FOUR.	20
	a) Concentric circle Theory	
	b) Land use plan	
	c) Public participation in planning	
	d) Satellite Town	
	e) Linear city,	
Q.2	Write a detail note on system of planning at different levels in India. (National/State/Regional/Local). Also mention different planning agencies and their role in each level.	20
Q.3	Describe in detail any TWO planning theories related to spatial structure of cities.	20
Q.4	What are planning surveys? Make a list of all types of planning surveys required for "Redevelopment" project and write in detail about any TWO types of surveys.	20
Q.5	Explain with suitable examples any TWO of the following. a) Neighbourhood concept b) Garden city c) Central Business District of city.	20
Q.6	Explain concept of Region and importance of Regional planning in Indian context.	20
Q.7	Write an essay on contribution of "Le corbusier" in the field of Town planning.	20

SUBJECT CODE NO: E-702

FACULTY OF ENGINEERING AND TECHNOLOGY

T.Y. Arch Examination Nov/Dec 2017 A.B.C.M.VI

[Time: 4 Hours.]	[Max.Marks:1	00]
N.B	Please check whether you have got the right question paper. i) solve any two questions from Section A and any two questions from Section –B ii) Answer of section A must be solved on drawing sheets only. Answer to section-B can be solved on answers-sheets iii) Assume suitable data wherever necessary iv) Figure to the right indicates full marks.	be
	SECTION A	Y
are 4.5m × 3. Height of the Draw the foll a) Key p b) Plan, c) Fixing		35
	ble false ceiling for the above mentioned hall.	
	cted plan of ceiling fixing arrangement	07 07
_	any three fixing & joining details.	21
Q.3 a)	gitudinal section through theatre balcony Showing racker beam & sight-lines Reinforcement details in racker beam.	10 07
b) i	Layout plan of swimming pool of $25m \times 50m$ along with supporting facilities like changing room, toilets, path, filtration plant, spectators gallery etc. Also draw key section of swimming pool.	10
iii.	Scum gutter with R.C.C. wall in swimming pool.	08
	SECTION B	
Q.4 Explain along	g with sketches Retaining wall.	15
Q.5 Explain alon	g with sketches cavity wall.	15
Q.6 Explain the c	ertain wall with sketches and state various different material used for curtain walls.	15

Total No. of Printed Pages:2

SUBJECT CODE NO: E-707 FACULTY OF ENGINEERING AND TECHNOLOGY

T.Y. Arch Examination Nov/Dec 2017

T.D.S.V

[Time:3	Hours]	[Max.Marks:100]
N.B	Please check whether you have got the right question paper. i. Question no 1 is compulsory. Attempt any five from the following ii. Assume suitable data if necessary. iii. Figures to right indicate the maximum marks.	
Q.1	a) Explain the factors cause structural damage during an earthquake.	05
	b) Explain the factors to be considered while selecting type of truss.	08
	c) Define and explain use of modular coordination exercises.	07
Q.2	a) Explain Reinforced and unreinforced masonry units in details.	08
	b) What are the general principles to be observed in Stone Masonry Construction?	08
Q.3	a) What are the types of trusses for different span? Explain with neat sketches.	10
	b) State the loads acting on roof truss.	06
Q.4	a) What are the effects of earthquake on structure?	10
ALALAR DO	b) Explain the IS-code recommendations for earthquake.	06
Q.5	a) Explain relation of structure with architecture.	10
	b) Explain in details different types of grid.	06
Q.6	a) What are the structural element? Explain column and beam in details?	10
	b) Write different types of foundation in details.	06

Q.7 Write short note on any two:

16

- a) Type of connections.
- b) Types of failures.
- c) Advantages of masonry construction.
- d) Classification of earthquake.

SUBJECT CODE NO: E-717 FACULTY OF ENGINEERING AND TECHNOLOGY T. Y .Arch Examination Nov/Dec 2017 E.S.S.-IV

E.S.S.-1V (Revised)

[Time:	: Three hours]	[Max.Marks:100
N.B.	Please check whether you have got the right question paper. 1. Question No.1 from section A and Question No.5 from section 2. Solve any two questions from section A from the remaining. 3. Solve any two questions from section B from the remaining. 4. Assume suitable data wherever required. 5. Figures to the right indicate full marks.	B are compulsory
	SECTION-A	300
Q.1	Define air conditioning and factors affecting human comfort in AC.	20
Q.2	Explain the various components used in central A.C. system.	15
Q.3	Explain duct system and duct materials.	15
Q.4	Write short notes on (any two) a. Air distribution in AC systems b. Filters used in Air conditioning. c. Refrigeration cycle.	15
	SECTION-B	
Q.5	Define fire. Explain architect's role in passive and active defense in fire fighting.	20
Q.6	Write short notes on (any two) a. Sprinklers b. Fire lift c. Fire demand	15
Q.7	Explain Fire staircase and considerations provided for it in NBC.	15
Q.8	Explain smoke detectors.	15

SUBJECT CODE NO: E-722 FACULTY OF ENGINEERING AND TECHNOLOGY

T. Y. Arch Examination Nov/Dec 2017 A.B.C.M.-V

[Tim	4 Hours] [Max.Marks	s:100]
N.B	Please check whether you have got the right question paper. i. Answer any two question from Sec 'A' and any three from Sec 'B'. ii. Answers to sec. A must be solved on drawing sheets only & answers to sec B be solved on answer sheets. iii. Assume suitable data wherever necessary and mention it clearly. iv. Figures to the right indicate full marks	can
	SECTION-A	
Q.1	A Multipurpose hall (size 30m×12m×5.0m) has a store room (at one corner of a hall) 5.0m×4.0m wide×3.0m ht The walls of the store room and multipurpose hall are 230mm thick. The opening to store room from multipurpose hall is 1.8m wide and 2.1 m in height. Client wants to provide a collapsible gate at the opening of store room. Design a collapsible gate with all joinery details and appropriate use of steel sections/members. 1) Draw Key plan, elevation and section of, multipurpose hall with store room. 2) Detail plan, elevation and detail cross section of collapsible gate. 3) Joinery details of two vertical steel members, fixing details of gate to the wall, roller fixing a horizontal bottom rail and handle details.	10 13
Q.2	Design a 'steel L-member' roof truss for a factory shed having internal size as 12m×36m with A.C. sheet cover. Truss is supported on RCC columns having size 380×450 mm with 230mm brick wall. The height from finished plinth to bottom of tie beam is 6m. plinth is 1.2m. Drawing requirements: i) Key-plan, elevation and section ii) Detail plan and detail cross-section of Truss. iii) Joinery details at Ridge, A.C. sheet and truss, column and truss iv) Sketch view of truss	
Q.3	Draw neat and proportionate sketches of the following. Mention suitable data and measurements wherever required. 1) Portal Frame 2) Rolling Shutter 3) Space frame 4) Deck Slab 5) Still footing at 1.5m below G.L.	07 07 07 07 07

SECTION-B

Q.4	What is Fly Ash? Write a detail note on properties and uses of fly ash in building industry.	10
Q.5	Write short note on- 1) Structural Steel 2) Electrical Insulators and Conductors	10
Q.6	"Plastic is the revolution in building Industry", write a note.	10
Q.7	Write a note on Bitumen with their properties, types and uses in different parts of building	10

SUBJECT CODE NO: E-726 FACULTY OF ENGINEERING AND TECHNOLOGY

T.Y. Arch Examination Nov/Dec 2017 T.D.S.-IV

[Time	e: Three hours] [Max.Marks	:100]
N.B	 Please check whether you have got the right question paper. i. Question No's.1 and 5 are compulsory. Solve any two questions from the remaining in each section. ii. Draw neat sketches whenever required. iii. Assume suitable data if necessary and state it clearly. 	
	SECTION-A	
Q.1	 a) A Column of effective length 8.50m has to support an axial load of 850kN. Design a double channel section for the column. The channels are placed back to back at a suitable spacing. Design also double system lacing for the column. 	24
Q.2	a) Explain different type of connections made in steel structures.	07
	b) Explain plate girder with sketch showing components of plate girder.	06
Q.3	a) Explain strength and failure of riveted joint.	04
	b) Draw a neat sketch of steel grillage foundation	04
	c) Explain Tension and compression member in steel construction.	05
Q.4	Design a slab base for the column ISHB-500 @ 86.9 carry axial load 1000kN. Assuming M_{15} grade concrete SBC of soil 160 kN/m ² .	of 13
1000	SECTION-B	
Q.5	Write short notes on (any four)	24
57 F 60	a) Advantages of steel structure over RCC	
	b) Types of Riveted joints	
	c) Flanged beam	
	d) Column lacing	
	e) Net effective areas of tension member	

- Q.6 Design a gusseted base for column consisting of ISHB-300 @ 58.8 kg/m carrying axial load 800 kN. 13 Assuming the grade of concrete M_{15} grade of concrete SBC of soil 160kN/m^2 .
- Q.7 Design a beam of effective span 6m and subjected to a bending moment of 105.3 X 10⁶ N-mm for the 13 compression flange laterally unsupported throughout.
- Q.8 Design an I-section purlin for trusted roof from the following data.

 Span of roof=12m, spacing of truss=5m, spacing of purlin along slope of roof truss=2m slope of roof truss=1 vertical, 2 horizontal, wind load on roof surface normal to roof= 1000N/m², vertical load from roof sheets etc. =200N/m²

SUBJECT CODE NO: E-730 FACULTY OF ENGINEERING AND TECHNOLOGY T.Y. Arch Examination Nov/Dec 2017 H.A.-IV (Revised)

[Time: 03:0	00 Hours] [Max.M	arks:100]
N.B	Please check whether you have got the right question paper. 1) Question number 1 and 2 are compulsory. 2) Solve any six questions from the remaining. 3) Draw neat sketches wherever necessary.	
Q.1	What were the "Five Points of a New Architecture" according to Le Corbusier? Explain suitable examples.	with 20
Q.2	Explain the design philosophy of any one of the following Architects with suitable example and neat sketches. a) B.V. Doshi b) Louis Khan	oles 20
Q.3	Explain the 'Theory of Skyscrapers' by Louis Sullivan with a suitable example.	10
Q.4	Enumerate with sketches and examples the new building types that developed after the industrial Revolution, due to new needs and functions.	10
Q.5	What is International style? Explain with suitable example.	10
Q.6	Write a short note on Art nouveau.	10
Q.7	Explain the concept as adopted by F.L. Wright in the design of Guggenheim Museum.	10
Q.8	Explain the Architectural style of Charles Correa with two examples of his work.	10
Q.9	Describe the architectural Scenario during Pre-Independent India.	10
Q.10	Explain the contribution of any one of the following Architect to Modern Architecture : I.M. Pei <u>OR</u> Walter Gropius	10

N.B

SUBJECT CODE NO: E-734 FACULTY OF ENGINEERING AND TECHNOLOGY T. Y. Arch Examination Nov/Dec 2017 E.C. & S.W. (Revised)

[Time: Three Hours] [Max.Marks:100]

Please check whether you have got the right question paper.

- 1) Question No.1 from section A is compulsory
- 2) Out of the remaining three questions from section A solve any Two and solve any Two questions from section B
- 3) Assume suitable data wherever necessary and mention it clearly.

Section- A

Q.1 Find out the cost of any four items from the table given below, work out the detailed quantities on measurement sheet, mention the correct unit of measurement as per DSR (Refer fig.A)

SR.NO	Description	Quantity	Rate in Rs.	Unit	Amount (Rs)
1	M 20 R.C.C. footings		5,132		
2	M20 R.C.C columns above footings to slab top		6,901		\$ \text{\$\delta}\$
3	M20 R.C.C slab		7,175		
4	230mm thick Brick walls in (1:6) cement mortar		5,325		
50 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Providing Aluminum sliding windows		3,516		
6	Providing and fixing T.W door frame		1,03, 306		

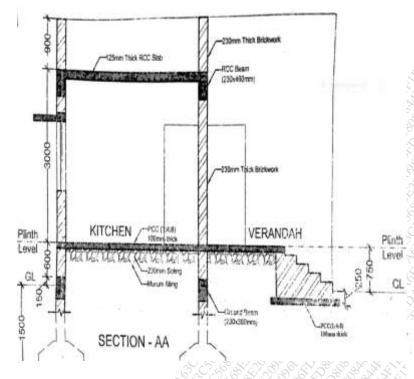
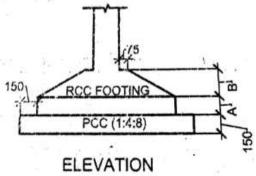


FIGURE :A Schedule of Openings

Sr. no	Type	Size (LXH)(mm)
1	DP	1000 X 2100
2	D2	900 X 2100
37,67	D3	750 X 2100
4	W1	1200X 1200
5	W2	1800 X 1200
6	W3	1800 X 900
700	V	750 X 750

Door frame section size =75 X125mm

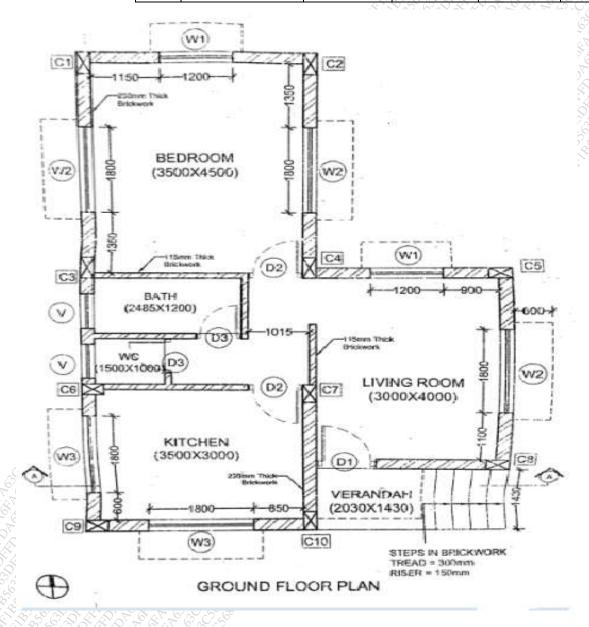


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	X	
١,		1
K	75	
150	PLAN (DE A

Note

- All plinth / ground Beams = 230 X 280mm
- All floor / slab level Beams = 230 X 160mm
- All linteis on external walls = 230 X 150mm
- All lintels on internal walls = 115 X 150mm
- All chajjah 600mm wide with 150mm bearing on both sides of windows

Schedu	le of RCC column foot	ing		3,900	S S S S S S S S S S S S S S S S S S S
Sr.	Type of column	Column size	Footing size	A (mm)	B(mm)
no		(mm)	(mm)		2000
1	C1, C2, C6	230 X 380	1200 X 1400	150	300
2	C5, C8, C9, C10	230 X300	1000X 1200	150	250
3	C3, C4, C7	230 X 460	1300 X 1500	200	330



Note: All dimensions are in millimeters

Q.2	Work out the rate for plain cement concrete (P.C.C) in 1:4:8 proportion with the followings data			
	i) Rate of cement Rs. 320 per bag			
	ii) Rate of sand Rs. 10,000per Trunk	PX V		
	iii) Rate of Aggregate Rs. 5200 per Truck	30.00		
	iv) Pay load factor for sand and Aggregate = 5.75 cu.m			
	v) Labour Rate = Rs. $480/ \text{ m}^3$ for P.C.C	30		
Q.3	Work out the rate of Neeru finished cement plaster 20mm thick in cement Mortor 1:4 proportion with	h 1:		
	the followings data			
	i) Rate of cement Rs.7000/ m.T	3,75		
	ii) Rate of sand Rs.12,000 / Truck	T		
	iii) Labour Rate = Rs.55/ sq.m			
	iv) Pay load factor for sand 5.75m ³			
Q.4	Write short notes on any Three a) What is the importance of specification in contracts? b) Provisional sum c) Cubic content method (Appro – estimate) d) Prime cost	15		
	Section = B			
Q.5	Write detailed specifications for uncoursed Rubble stone masonary (U.C.R) in 1:6 cement Mortor	15		
Q .6	Write detailed specifications for Indian Patent stone flooring (IPS) on ground floor.	15		
Q.7	Write detailed specifications for providing and fixing Indian type of W.C pan Including all fittings	15		

SUBJECT CODE NO: E-726 FACULTY OF ENGINEERING AND TECHNOLOGY

T.Y. Arch Examination Nov/Dec 2017 T.D.S.-IV

[Time	: Three hours] [Max.Marks:	100]
N.B	 Please check whether you have got the right question paper. i. Question No's.1 and 5 are compulsory. Solve any two questions from the remaining in each section. ii. Draw neat sketches whenever required. iii. Assume suitable data if necessary and state it clearly. 	
	SECTION-A	
Q.1	 a) A Column of effective length 8.50m has to support an axial load of 850kN. Design a double channel section for the column. The channels are placed back to back at a suitable spacing. Design also double system lacing for the column. 	24
Q.2	a) Explain different type of connections made in steel structures.	07
	b) Explain plate girder with sketch showing components of plate girder.	06
Q.3	a) Explain strength and failure of riveted joint.	04
	b) Draw a neat sketch of steel grillage foundation	04
	c) Explain Tension and compression member in steel construction.	05
Q.4	Design a slab base for the column ISHB-500 @ 86.9 carry axial load 1000kN. Assuming M ₁₅ grade of	of 13
3	concrete SBC of soil 160kN/m ² .	
OFF	SECTION-B	
Q.5	Write short notes on (any four)	24
A 300	a) Advantages of steel structure over RCC	
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	b) Types of Riveted joints	
3000	c) Flanged beam	
2 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	d) Column lacing	
	e) Net effective areas of tension member	

- Q.6 Design a gusseted base for column consisting of ISHB-300 @ 58.8 kg/m carrying axial load 800kN. 13

 Assuming the grade of concrete M₁₅ grade of concrete SBC of soil 160kN/m².
- Q.7 Design a beam of effective span 6m and subjected to a bending moment of 105.3 X 10⁶ N-mm for the 13 compression flange laterally unsupported throughout.
- Q.8 Design an I-section purlin for trusted roof from the following data.

 Span of roof=12m, spacing of truss=5m, spacing of purlin along slope of roof truss=2m slope of roof truss=1 vertical, 2 horizontal, wind load on roof surface normal to roof= 1000N/m², vertical load from roof sheets etc. =200N/m²

SUBJECT CODE NO:- E-737

FACULTY OF ENGINEERING AND TECHNOLOGY T. Y. Arch Examination Nov/Dec 2017

E.S.S.III (Revised)

Time	Inree Hours] [Max.Mar]	ks:100
N.B	Please check whether you have got the right question paper. i) Q.No.1 and Q.No.6 are compulsory. ii) Solve any Three questions from section A & B each, excluding compulsory que iii) Assume suitable data if Necessary. Section A	estions
Q.1	Attempt any Seven a) Define Plane angle b) Define Luminous Flux c) Define Luminous intensity d) Give Application of Earthing e) State Features of Fluorescent Lamp f) Explain Reflection & Refraction g) State different material used in lamps h) State the basic Difference between Sub Distribution & Power Distribution Board	14
Q.2	 i) State Factors Affecting on Visual Task j) Explain Faradays Law a) Explain with neat sketch Argon Neon Lamp 	06
	b) Explain with neat sketch Metal Halide Lamp	06
Q.3	a) Explain perfect level of Illumination with some Required Illumination levelb) State & Explain the Energy Conservation tips	06 06
Q.4	a) Explain Rules of Electrical Safetyb) Explain difference between artificial & Natural lighting	06 06
Q.5	Write a short note on a) CFL	04
	b) LED Lampc) Method of Mounting & Lighting Control	04 04

Section B

Q.6	Attem	pt any seven	14
		Coefficient of utilization	
	b)	Selection criteria for selection of lamp	
		State different NBC Codes	A. C.
	d)	State Application & Properties of Incandescent lamp	22
		Define Lamberts Cosine Law	
	f)	Define Inverse Square Law	
	g)	Explain Necessity of Lighting Conductor	
	h)	Which type of motor is suitable for lift with properties?	32
	i)	State the different types of Elevator	
	j)	What is required Illumination require for Physically Challenged in building	
Q.7	a)	Explain in details Different lighting Scheme	06
	b)	Explain in details Outdoor lighting Design	06
Q.8	a)	The front of a building 25×12 m is illuminated by 201 lamps of 200 –W arranged so that uniform illumination on the surface is obtained. Assuming a luminous efficiency of 30 lumens / W and a coefficient of utilization of 0.75. Determine the illumination on the surface. Assume DF = 1.3 and waste light factor 1.2	06
	b)	Explain Solar Energy system for Residential building	06
Q.9	a)	Explain in details comparison between different light source	06
	b)	A room with an area of 6×9 m is illustrated by ten lamps of 80-W. The luminous efficiency of the lamp is 80 lumens / W and the Coefficient of utilization is 0.65. Find the average illumination.	06
Q.10	Write	a short note on	
-000 000	a)	Basic Principle of Light Control	04
300	b)	Study of Lux Meter	04
		Preventive & Breakdown Maintenance	04

SUBJECT CODE NO: E-739 FACULTY OF ENGINEERING AND TECHNOLOGY T. Y. Arch Examination Nov/Dec 2017 A.D.V

(Revised)

[Time: 1st Day – 6 Hours

2nd Day – 3+3 Hours

 3^{rd} Davs – 3+ 3 Hours 1

[Max.Marks:100]

Please check whether you have got the right question paper.

N.B

- i) The candidates are instructed to work for six hours Enlodge on the first day. On the subsequent days, there will be two sessions of three hours each.
- ii) The candidates are further instructed to submit schematic plans of their design (sketch plans, site plan, sections etc) at the end of first day. No major deviation will be allowed in the final submission form the first day sketch. 1st day sketch should be written in bold letters.
- iii) The candidates are further instructed to submit the final design in the form of a portfolio binding all the drawings including sketches, tracings, and first day sketches together and covering the portfolio with white sheets on both sides. The candidate shall write their examination number on the top right hand corner of the cover sheet.
- iv) All the drawings in the portfolio shall carry the examination number of the candidate and are signed by the invigilator.
- v) The design will be assessed as a whole.
- vi) Assume suitable data wherever possible and mention it clearly.

Q.1

'COMMERCIAL HOTEL'

Aurangabad city has two International Heritage sites and numerous other National Heritage structures due to its glorifying history and rich culture. Recently it is declared as Tourist city by State Govt. and included in smart city and proposed DMIC by central government.

Aurangabad is fastest growing Industrial city, Regional capital, becoming Educational Hub and catering Health Services to nearby areas of the Region.

Having such a great potential a Private Group of Entrepreneurs from Aurangabad intends to construct a 'Hotel' on Beed Byepass Road as it is becoming a main Road of the city.

THE REQUIREMENTS OF THE PROJECT ARE AS FOLLOWS:-

1) Reception, Waiting Lounge, Entrance Lobby, Travel Counter, Booking Etc.

100 - 150 sq.m.

2) General Manager's cabin -20 - 22 sq. m. with Att. Toilet

4) Account office
$$-15-20 \text{ sq.m}$$

5) Time office
$$-10-12$$
 sq. m

B) ACCOMODATION:

C) FOOD AND BEVERAGE:

3) Stores, pantry, utility
$$-40-50$$
 sq. m or wash Areas

7) Staff Dining Area
$$-15-20$$
 sq.m

D) OTHER FACILITY:

- 1) Conference Hall with Pantry & Toilet
 - (a) For 100 persons 150 sq. m.
 - (b) For 50 persons 75 sq. m.
- 2) Party Hall / Banquet (500 sq. m) Hall for 400 persons

E) SERVICE AND MAINTENANCE

1)	Security office	10 - 12 sq. m
2)	Maintenance	12 -15 sq. m
3)	Electrical, Generator	30 - 40 sq.m
	Room & Pump Room	
4)	Room Boys Room	12 - 15 sq. m
5)	Laundry	20 - 25 sq. m
6)	Housekeeping	15 - 20 sq. m
7)	Linen Store	15 - 20 sq. m
8)	A.C. Plant Room	20 - 30 sq. m

F) PARKING

1) Parking For Hotel Staff	Assume suitable area
2) Parking For Guests / Visitors	as per standard Norms.
3) Temporary Parking area for	155 5 6 6 7 6 6 6 E
Party / Function Hall	8, 4, 45 9, 76, 9, 78, 16, 15, 12.

G) CIRCULATION:

- 1) Staircases
- 2) Lifts both Passenger and Service
- 3) Corridors / Lobby
- 4) Five Escape Staircase

As per Standard Norms

DRAWING REQUIREMENTS:

Note: Assume suitable scale for all Drawings.

- i) Site Plan
- ii) All floor plans
- iii) Two Road side (minimum) Elevations
- iv) Two Sections (minimum)
- v) Detailed Plan of Guest Room & Suits
- vi) Three Dimensional Sketch view.

Note: i) A minimum Front margin from main Road is 12m

ii) For all other sides & secondary Road Side 6m as minimum margin.

