

EMERGING TRENDS IN CIVIL ENGINEERING

UNIT 1- MCQ

<u>QUE NO.</u>	<u>QUESTION</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
1	..... software is applicable for robust architectural design and documentation software.	E -TAB	REVIT	GUI	3D ARCHITECT HOME
2	In which software floor plans, levels, section and 3d view are automatically update?	REVIT	3D ARCHITECT HOME	E -TAB	Water Gems
3	.....is a finite element analysis software	REVIT	Win Est	Clear estimate	E -TAB
4	which software represent the future of earthquake engineering.	E -TAB	REVIT	Quick Grid	Tekla
5	.....software is use these models for testing the safety and design potential of building.	3D ARCHITECT HOME	E -TAB	STAAD PRO	BMS
6	.....Software used to technical plans such as electrical network, heating etc.	Build Master	3D ARCHITECT HOME	HEC RAS	BMS
7	Which software is designed by the software development team, Inedo & it is most popular Indian software for rcc building design	PDMS	Build Master	BMS	MSD
8	.....Software is a complete package for analysis, design, drawing and estimation of rc building.	Build Master	BMS	GUI	BIM
9	Who is the founder of " Estimate Master" software?	Johnson charles	Coon Creek	tom cook	Kemar roach
10	which software lower tag makes it a good choice for contractors and trade subcontractor.	ProEst	LUSAS	BricsCAD	Estimate Master
11	which software demands for speed ,accuracy, and responsiveness .	ProEst	LUSAS	BricsCAD	Estimate Master
12	which software have ability to customize estimating parameters	ProEst	BricsCAD	LUSAS	ProCore
13	WBS stands for	winter based schedule	work breakdown structure	warm base schedule	work bonding signature
14	which software is useful to organize labour rate tables and equipment rate tables?	ProCore	Win Est	Clear estimate	Builder trend

15	which software is developed by Nolan Orefield?	ProCore	Win Est	Clear estimate	BricsCAD
16	clear estimate shall be accessed by mobile Device.	yes	No		
17	which software shall be accessed by mobile device.	ProCore	Win Est	Clear estimate	BricsCAD
18	which software is use for water distribution networking?	Water Gems	STRAP	Build Master	Revit
19	which software is say that the superset of Water CAD	Water Gems	CAD	Tekla	E-Tab
20	which software is use in 20 languages?	Tekla	Hec Ras	E-Tab	Revit
21	which software is use for the modelling of stadium, factories, bridges and sky scapers?	Water Gems	Hec Ras	Tekla	STAAD Pro
22	What is the use of HEC RAS software?	modelling of water flowing through open channels	building modelling	Reservoir capacity Estimate	Structural Design
23	which of the following software use for the flood planing?	Hec Ras	CAD	Tekla	E-Tab
24	which software is use to static and dynamic analysis of building , bridges, and other structures.	STRAP	REVIT	CAD	Tekla
25	How many bit processor is require to run for STRAP software?	32 bit	16 bit	64 bit	All of above
26	RISA is used for	Design of towers	sky scrapers	airports	All of above
27	In RISA, the view can be rotated at	90	180	270	360
28	CIVIL 3D is developed by	Auto desk	Bentley	Environmen tal system reasearch institute	none of above
29	CIVIL 3D is used to create three dimensional models of	land	water	transportati on	All of above
30	.....is powerful software tool for 3D engineering design of road scheme and infrastructure.	Site 3D	Skycir STRUCTURAL 3D	SAP2000	none of above
31	Site 3D design whole sites including ..	Roads	Footways	Contour	All of above
32	Sky Civ STRUCTURAL 3D work on	MAC	PC	Mobile Tablets	All of above

33	Sky Civ STRUCTURAL 3D is structural analysis software supporting a wide range of elements including .. A) plates B)Cables C)roads D)Footways	A &B	B & C	C & D	D & A
34	PDMS means	plant design management system	planning design maintainance system	planning design managemen t system	Picture developm ent managem ent system
35	PDMS is applicable for	1D	2D	3D	4D
36	Autodesk is a maker of popular .....software	REVIT	AUTO CAD	AECO	All of above
37	Primavera owned by	Relience	oracle	Nokia	Jio
38	Function of CPM	Calculate project finish date	calculate total cost of project	Estimate the budget	none of above
39	Microsoft project is project management software developed and sold by	microsoft	google	yahoo	java
40	..... architecture construction and engineering industries for periodic control of work.	PDMS	MSP	BIM	CAD
41	Which software is used by structural engineers, architect, contractors, building officials, building inspectors and government officials	CAD	BIM	AECO	E-Tab
42	Which software use in drafting and design service	PDMS	STRAP	HEC RAS	E-Tab
43	Which software is beneficial for conventional CAD planning	BIM	MSP	E-Tab	PDMS
44	Which software ensure well structure digital documentation of project data over a building entire life cycle	BIM	MSP	PDMS	E-Tab
45	STAAD PRO software only used for creating	3D plans	2D plans	elevation	section
46	STAAD PRO software used for	Any size or type of structure	only bridge structure	only building	only public building
47	STAAD PRO is te software which include	finite element method	physical modelling	finite element analysis	All of above
48	Following which type of software converts physical model into analytical model automatically	STAAD PRO	TEKLA	ArcGIS	Quick grid

49	Architect Home Software used to test the	safety and design potential of building	material	slab and foundation	all international design codes
50	Architect Software made for.....	professional and construction companies	design and planning	3D design	All of above
51	Architect software powerful and extensive tool set for creating	2D floor plan	3D floor plan	elevation & section	All of above
52	Architect Software creates...	Detailed Drawing	3D plan	2D plan	All of above
53	which software allow firms contractors, architectures and engineers to share data in the field	Winest	Procore	Clear estimate	Procast
54	which software increase project efficiency and accountability by providing streamline project communication and documentation	Winest	Procore	procast	clear estimate
55	by using which software quick estimation can possible with error free estimation	clear estimate	builder trend	procast	Buildsoft
56	which software is useful to handling residential construction project and remodels	Buildsoft	procast	clear estimate	builder trend
57	BMS stands for	building management system	basic mathematics	basic management system	building maintenance system
58	which software is categories as home automation and building automation	BMS	Chief estimator	Build soft	builder trend
59	which software is applicable for 3D modelling and designing	BMS	PDMS	procast	winEst
60	PDMS stand for	Public development major stream	plant development and maintenance system	plant design management system	Public democracy management system
61	SAP 2000 is the software analysis and design which is used to	dam	communication	tower	All of above
62	SAP2000 is used to generate ...	simple model	complex model	both a and b	none of above
63	MIDAS are available for analysis and design of ..	bridge engg	building engg	geo technical engg	All of above

64	.....geotechnical solution can be obtained for practical design with the help of MIDAS	2D	3D	6D	All of above
65	.....can be used to design RC frame	LUSAS	MIDAS	SAP2000	BricsCAD
66	LUSAS reinforcement details for anyshaped section	Irregular	Regular	Arbitrary	All of above
67	BricsCAD is developed by	Auto desk	Bricsysnv	Bentley	none of above

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UNIT 2- MCQ

<u>QUE NO.</u>	<u>QUESTION</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
1	The World Health Organisation has publish a report on burdon of disease from environmetal noise	Apr-12	Mar-11	Jul-18	Mar-14
2	Carbon fibre has diameter between	4.5 to 6.5 micron	0.2 to 0.5micron	10 to 20 micron	0.5 to 5 micron
3	Which material is manufactured by patented technologies.	Fly ash brick	3D printed tiles	PVC tiles	sensi tile
4	Artificial sand is alternative of	river sand	cement	fly ash	None of above
5	Bricks made up of cegarette butt are disinfected at Temperature.	105 'c	100 'c	150 'c	90 'c
6	.....is the material light weight which is 2/3 * weight of steel.	laminated timber	Carbon fibre	3D printed bricks	sensi tile
7	Aerogel are also called as	fFrozen Smoke	Blue smoke	Both a and b	None of above
8	The bricks become more porous as the % of butts	Increases	Decreases	stay constant	None of above
9	Thomas Edison used the material as a filament in 1807 was	Fibre	Carbon fibre	Carbon	Tungstem
10	software used for designing of 3D printed brick is.....	Grasshopper	Pixel stone	glass	All of above
11	Sensi tile are made from	Decorative resin	Terrazo Material	glass	All of above
12	Foreign countries started to use snow melt agent in the year.....	1930	1980	1940	1975
13	The cement industry is the second largest producer of .....in the world.	ash	CO2	Cement	H2SO4
14	To produce cement limestone (calcium Carbonate) is heated to	1025 'F	2600 'F	1025 'C	2600 'C
15	Cement alone is responsible for around% of the world's overall CO 2 emmission	50	25	15	5
16	Firewall or partition wall are used for	Commercial structure	Multi storey appartment	Multi storey building	Military structure
17	High resistance to chloride attack which reduces the risk of in concrete.	Heat of Hydration	Workability	Compaction	Corrosion
18	.....concrete is used in water tight construction.	Fibre reinforced concrete	High strength concrete	Self healing concrete	Nano concrete

19	As per standard specifies the % of fly ash constituent in portland pozzollana cement by mass is.....	10 to 15%	15 to 35 %	20 to 40 %	25 to 30 %
20	.....is responsible for around 80 to 95 % of light absorption in wood.	Lignin	Chlorophyll	Tannins	None of above
21	Laminated timber is also known as	Glulam beam	classic glulam	Glulam	All of above
22	The geo synthetics generally used for drainage purpose are	Geotextile	Geo composites	Both a and b	None of above
23	.....are the product generally used for the function of filtration.	Geotextile	Geomembrane	Geo composites	None of above
24	.....are the type of geosynthetics generally used for the function of barrier.	Geomembrane	Geosynthetic clay liner	Both a and b	None of above
25	noise reduction by providing double layer porous asphalt is of .....can be achieved.	1dB	2dB	4dB	more than 4 dB
26	porous pavement also known as	pervious pavement	permeable pavement	plastic pavement	both a and b
27	.....subgrade is provided in porous pavement to maximize the infiltration rate of soil.	compacted	semi compacted	Uncompacted	None of above
28	in wet process of plastic road, .....roller is used for compaction.	8 Ton	6 Ton	4 Ton	2Ton
29	snow melt agent include.....	chlorine salt	non chlorine salt	mixed salt	All of above
30	The standards specifies that the fly ash constituent in PPC .....by mass of portland pozzollana cement	greater than 15%	Less than 35 %	Both a and b	None of above
31	.....is a new generation superplasticizer for concrete for extended slump retention.	MasterGlenium	Polycarboxylic Ether	Both a and b	None of above
32	.....also known as high range water reducer plasticizer	MasterGlenium	Polycarboxylic Ether	Both a and b	None of above
33	.....is one of the best ecofriendly technique to heal the crack in concrete structure	Stabilization	Bio-mineralisation	mineralization	All of above
34	cement in self healing concrete has capacity of self healing of crack of.....	< 0.2 mm width	< 0.4 mm length	> 0.2 mm width	> 0.4 mm width
35	.....is a custom designed bacteria to embedded deep into the crack in concrete.	Bacillus Subtilis	bio bacillus	bacillus hectilis	None of above
36	the self healing agent can lie dormant within concrete for upto .....years	100	200	300	400
37	According to IS 456-2000 ,designate as high strength concrete.	M10 TO M20	M25 TO M60	M65 TO M100	None of above
38	High performance concrete will have low water cementing ratio of	0.10 to 0.20	0.20 to 0.45	0.45 to 0.60	0.60 to 0.75

39	light transmitting concrete abbreviated as.....	LTC	LiTrCo	LiTraCon	All of above
40	LiTraCon was developed in .....by hungarian architect	2000	2001	2002	2003
41	GGBS is a partial replacement of	cement	sand	course aggregate	None of above
42	the concrete which is made from concrete waste that are eco friendly known as.....	ferrock	green concrete	GGBS concrete	None of above
43	Green concrete was first invented in .....in year 1998.	india	africa	Denmark	London
44	Ferrock is created from	waste steel dust	waste plastic	waste timber	rocky material
45	As compared to portland cement which is leading type in use, Ferrock istimes stronger.	two	three	four	five

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UNIT 3- MCQ

<u>QUE NO.</u>	<u>QUESTION</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
1	Task sheetserves as a review of hydraulic power	2	4.5	6.5	None of above
2	.....are used for a wide range of high definition surveying HDS application	LIDAR	GPS	GIS	Scan station
3	the GPS receive the signal and use them to calculate position in terms of	latitude	longitude	altitude	All of the above.
4	Crawler loader is used for	Digging	Material Removal	both a and b	None of above
5	Trencher is also known as.....	Excavator	Digger	Ditcher	Elevator
6	Trenching machine are used to cut	Hard ground	Soft rock	both a and b	None of above
7	the method of GPS measurment that areutilised by surveyor are	Static GPS baseline	RTK Observatio	CORS	All of the above.
8	Micro trencher can be controlled by	Radio Controlled	remote controlled	Mannually controlled	None of above
9	The machine can work in hard or soft soil , either homogeneous or hetrogeneous.....	Ditcher	Rock Wheel	crawler loader	chain trencher
10	Wheel trencher is mounted on	Chain	Tires/track	Rubber chain	Wheels
11	.....the machine, used to cut road pavement	Rock Wheel	Trencher	Chain trencher	Skid loader
12	.....are also known as unmanned arial vehicles or remotely piloted vehicle.	Drone	GPS	GIS	LIDAR
13	Full form of LIDAR	Level decision and ranging	Light detection and ranging	level detection and ranging	None of above
14	Which is correct type of survey equipment.	LIDAR	Scan station	GPS	All of the above.
15	The essential concept of LIDAR way originated by EH Synge in.....	1930	1890	1950	None of above
16	GPS is a .....based navigation system	satellite	earth	clocks	location
17	The GPS concept is based on which of the correct one	Time	Position	Speed	Signal
18	Full form of GPS	Globe periodic system	Globe positioning systeme	Geological positioning system	None of above
19	LIDAR is used extensively for.....and.....	Atmospheric research , meteorology	ultravoilet, visible	ultravoilet, meteorolog y	None of above
20	Photogrametry can be classified based on camera are	Arial Photogramet ry	Terrestrial Photogram etry	Space Photogram etry	All of the above.

21	in terrestrial Photogrammetry the camera axis is.....	verticle	horizontal	inclined	None of above
22	Photogrammetry describes from three words	Photo - light	Gram-drawing	Metry-measurment	All of the above.
23	In arial Photogrammetry the camera axis is.....	verticle	horizontal	inclined	none of above
24	types of metric photography are.....	Planimetric mapping	topographic al mapping	both a and b	None of above
25	Taking photographs from atleast two different location so called	Sight	lines	line of sight	sight of line
26	Full form of DEM	Digital electronic machine	Digital electronic model	Digital elevation model	None of above
27	What was one of the first adaptation of GPS	Surveying	Latitude	Surveying and mapping	None of above
28	Indoor application of laser level are	Levelling floor	Masonrry alignment	site layout	None of above
29	Lower crane is the modern form of	Balance crane	mobile crane	Telescopic crane	Truck mounted crane
30	Industrial and manufacturing application for belt conveyors include....	Package handling	Trash Handling	Bag Handling	all of the above.
31	Hoist is a device used for.....	Lifting	Lowering load	Deposite load	All of the above.
32	Typical Forklift is called as.....	Overhead Crane	Road paver	Lift truck	None of above
33	Function of tunnel boaring machine.....	Supporting the ground	Deposite the load	lowering the load	None of above
34	Mobile concrete miner are more suitable for.....	Construction site	road	bridge	all of the above.
35	Typical Forklift was developed in the early.....century by various companies	21 th	19 th	18th	20 th
36	Most popular Forklift type type on the market today are today are.....	side Loader	Electric hoist	overhead crane	loader crane
37	Micro trencher are used to.....traffic or pedestrian disturbance during network laying .	Minimize	Increase	Moderate	Control
38	A Trencher is a trenching dvice which needs creeping grcars tractor to operate.	Portable assault	micro Trencher	Chain trencher	Tractor Trencher
39	Advantage of .....over other earth moving machine iscapacity to remove wet soil from the surface.	Scraper	Road Sweeper	Micro duster	Soil cleaner
40	One big advantage of the scaper is reduce fuel consumption upto.....%	20	30	40	50
41	The optimum hard distance for the small and medium size scraper is .....feet.	500 to 3000	300 to 5000	300 to 3000	Upto 5000
42	The four phase of .....work cycle or digging cycle are digging ,dumping, and returning.	Scraper	Auto dumper	Shovel	Foundati on

43works with conventional cement mortar which brings to a smooth , flat finish with variable and adjustable thickness to suit each application.	Digital plastering machine	Advanced plastering machine	Automatic plastering machine	Computer operated plastering machine
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UNIT -V MCQs

<u>QUE NO.</u>	<u>QUESTION</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
1 is a building with zero net energy consumption.	ZEN	NZEB	ZEB	All of above
2	Full form of NZEB is	Net zero energy building	New zero energy building	Net zero energy building	None of above
3	Zero energy building also known as.....	Zero net energy building	Net zero energy building	Both A & B	None of above
4	The amount of energy used by building in ZEB is roughly equal to	Amount of energy created on site	Renewable energy source elsewhere	Both A & B	None of above
5	ZEB contribute..... greenhouse gas to atmosphere than that similar non ZNE building.	Less	Moderate	More	None
6	ZEB reduced.....	Energy consumption	Energy distribution	Greenhouse gas production	Only A & C
7	India's first ZEN building is.....	Indira Paryavar an Bhavan	Sonia Paryavar an Bhavan	Indian Environmental Prevention	None of above
8	Indira Paryavar an Bhavan inaugurated in	1997	1992	2004	2014
9	In zero net energy building, were proposed.	Passive solar building design	Other greenhouse technologies	High efficiency solar panels	All of above
10	In....., ZEB project receives an award from Adarsh/GRIHA of MNRE for exemplary	February 2012	February 2013	February 2014	February 2015

	demonstration of Integration of renewable energy technologies.				
11	The ZEB project was accorded..... Green Building Certification by GRIHA under MNR.	2-Star	3-Star	5-Star	Brilliant
12	The ZEB project was accorded 5-Star Green Building Certification in	Jan 11	Jan 12	Jan 13	Jan 14
13	Principle of zero energy building is	To reduce carbon emission	Reduce dependence on fossil fuel	Both A & B	None of above
14	Match the following (a) NZEB: A (i) A site renewable NZEB (b) NZEB: B (ii) A foot print renewable NZEB (c) NZEB: C (iii) An off-site purchased Renewable NZEB (d) NZEB: D (iv) An important renewable	a- (ii), b- (i), c- (iv), d- (iii)	a- (i), b- (ii), c- (iii), d- (iv)	a- (iv), b- (i), c- (iii), d- (ii)	a- (iii), b- (i), c- (iv), d- (ii)
15	The advantage of ZEB is	It reduces requirement for energy austerity.	It reduces total net monthly cost of living.	It reduces risk of loss from grid blackouts.	All of above
16	Disadvantage of ZEB is	Unskilled builder are required.	Initial cost is high.	Declination in capital invested in energy efficiency.	Only B and C.
17	Green building is also known as	Green construction	Sustainable building	High performance building	All of above
18	..... is a structure that is environmentally responsible and	High performance	Environmental free building	Both A and B	None of above

	resource efficient throughout its life cycle.	nce building.			
19	The key objective of sustainable building is	Reducing water consumption	Protecting water quality	Both A and B	None of above
20	The EPA suggest using recycled industrial greed such as	Coal combustion product	Foundry sand	Demolition debris	All of Above
21	The IPD environment code was initiated in	Feb 2008	Feb 2010	March 2008	April 2008
22	The objective of IPD environment code is	Enable property executive to generate high quality	To prevent water quality	Both A and B	None of above
23	Component of green building are	Solar panel	Photo volcanic panel	Light coloured exterior wall	All of above
24	The features of green building are	Use of nontoxic and reduced material	Use of renewable energy	Both A and B	None of above
25	Full form of LEED is	Leadership in energy and environmental design.	Lay outing in energy and environmental design.	Both A and B	None of above
26	When number of houses is constructed to suit the requirement of population of an area or country known as	Green house	Mass house	Town planning	None of above
27	Objective of mass housing is	To provide sufficient housing to occupy	To provide low cost living facilities	To make available the strong and durable	All of above

		the huge amount of native people living in the society.	easily in society.	houses for a group of people	
28	Method of mass housing are	Precast housing	Pre engineered building	Prefab homes	All of above
29	.....It is one of tool of mass housing in which various precast elements of houses are casted separately in plant.	Precast housing	Prefab homes	Both A and B	None of above
30	Most common precast products are	Partition mass	Wall element form sandwich to Gray Wass	Both A and B	None of above
31	Advantage of precast concrete are	Aesthetics	Durability	Cost effective	All of above
32	Disadvantage of precast concrete are	Handling difficulty	Aesthetics	High initial investment	Both A and C
33	The homes which are casted by using prefabricated element manufactured off site in advance, usually in standard section that can be easily shipped and assembled at site is called	Precast housing	Pre engineered building	Prefab homes	All of above
34	Prefabricated housing also know as	Prefabs homes	Prefab	Both A and B	None of above
35	..... are little costly but overall it become economical due to less maintenance	Precast housing	Prefabs	Pre-engineered building	All of above
36	Types of prefabricated homes are	Modular homes	Mobile homes	Manufactured homes	All of above

37	..... typically installed like a regular house and usually expensive of three types of prefabs.	Modular homes	Manufactured homes	Mobile homes	None of above
38	Manufactured homes are places on.....	Temporary foundation	Permanent foundation	Shallow & deep foundation	All of above
39	In manufactured homes, the wheels, hitch and axles are removed on site.....	Before	After	Along with	None of above
40	..... are built on wheels that can be pulled by vehicles.	Manufactured homes	Precast housing	Mobile homes	All of above
41	Mobile homes are considered as..... Property which is licensed by dept. of motor vehicles.	Public	Private	Government	None of above
42	Full form of DMV is	Department of movement of vehicles	Department of motor vehicle	Department of motion of vehicle	None of above
43	Tiny homes are within the category of.....	Manufactured homes	Modular homes	Mobile homes	Precast housing
44	Among types of prefabricated homes, the houses are constructed in accordance with HUD buildings code except	Mobile homes	Modular homes	Manufactured homes	None of above
45	Modular houses are constructed in accordance with	IS code	IRC	HUD	Both A and C
46	Full form of PEB is	Pre enter building	Pre-exist building	Pre-engineered building	Post engineered building
47	PEB's are	Concrete structure	Steel structure	Fibre structure	Stone structure
48	PEB's are built up sections fabricated at.....	Site	Factory	Both A and B	None of above

49	..... concept is generally used for industrial building, metro station, canopies etc.	Precast building	Prefabs	Pre-engineered building	Both A and B
50	Component of PEB's are	Haunch	Wall grit	Corner post	All of above
51	PEB's consist of different steel structural member such as	Roof & wall panel	Sandwich panel	Primary framing	of All above
52	.....of PEB is an assembly of built up I- section which forms framing consist trusses or castellated beams etc.	Secondary structural element	Sandwich panel	Primary framing	Both A & B
53	..... are cold formed members in different shapes like "Z", "C" etc forms purlins.	Roof and wall panel	Primary frame	Secondary structural element	Both A & B
54	.....in this category, Tin shades & Curtain Wall made of glass and roll formed steel sheet usually comes in this category.	Primary frame	Sandwich panel	Roof & wall panel	Both A & B
55	.....is made up of three layers, in which a non-aluminium core is inserted b/w two aluminium sheet.	Roof and wall panel	Sandwich panel	Primary frame	None of above
56	Mezzanine floors, bolts, insulation are used in pre-engineered building	True	False		
57	Advantage of PEB are	Quality control	Appearance	Low maintenance	Both A & B
58	Disadvantage of PEB are	Rusting/corrosion sensitive	Appearance	Both A & B	None of above
59	.....are traditional metal structures constructed by rolled steel sections which are designed individually & fabricated at site using welding & cutting.	PEB	Conventional steel building	Both A & B	None of above
60	PEB is lighter than conventional building.	10 to 20 %	5 to 10 %	20 to 30%	30 to 50%

61	PEB gives clear span up to .....m without any intermediate supports.	100 to 120m	50 to 100m	100 to 150m	150 to 160m
62	Price per square meter for PEB is..... than the cost of conventional building.	30% more	30% less	50% more	50% less
63	Conventional steel building..... against seismic force.	Withstand	Cannot withstand	Can resist	None of above
64	PEB use international design code such as	AISC	AISI	MBMA	All of above
65	“Step forward as revolutionary new development” is also known as	Paint on/ spray on solar	Paintable solar	Both A & B	None of above
66	Solar paint is alternative to	Rigid silicon flat panels	Mangalore tiles	Normal paint	All of above
67	..... Consist of range of material known as Perovskites.	Liquid solar paint	Solid solar paint	Both A & B	None of above
68	Solar paint combines titanium which result in.....	Hydrogen sulphide	Hydrocarbon sulphide	Molybdenum sulphide	Both A & B
69	Molybdenum sulphide compound act much like silica gel to	Absorb moisture	Prevent damages	Both A & B	None of above
70	The solar paint will be effective in	Cold and rainy climate	Hot and dry climate	Both cold and hot climate	None of above
71	Advantages of solar paint are	Helps to produce fuel	Absorb moisture content	It have synthetic Molybdenum sulphide	All of above
72	Full form of BIPV is	Best Indian Photo Voltaic	Building Integrated Photo Voltaic	Building Including Photo Voltaic	None of above
73	..... is used to replace conventional building materials in part such as roof, facade	Solar paint	BIPV	Both A & B	None of above

74	The advantages of integrated photovoltaic over non-integrated system is	Initial cost is less	Reducing cost of building material	Reducing cost of labour	All of above
75	Forms of building integrated photovoltaic modules are	Flat roofs and pitch roof	Facades and glazing	Both A & B	None of above
76	The ceramic solar roof tile is patented by	Thomas company	Dutch company	Thomas Dutch company	None of above
77	Ceramic solar roof tile is patented in	2010	2011	2012	2013
78	..... can be installed on existing building giving a whole new look	Glazing	Facade	Both A & B	None of above
79	In base isolation method, Are very stiff and strong in vertical direction but flexible in horizontal direction.	Bearing pad	Base beam	foundatio n	None of above
80	Displacement towards right, the unisolated building is also shown to be changing its shape from rectangle to.....	Square	Triangle	Parallelo gram	None of above
81	Primary cause of earthquake damage to building is	Deformat ion	Deflection	Bending	None of above
82	Acceleration is because the base isolation system lengthens a buildings period of vibration.	Increases	Decreases	No depend on each other	None of above
83	In response of base isolated building the lead plug the energy of motion i.e. kinetic energy by converting that energy into heat.	Reduce	Dissipates	Increase	Both A & B
84	Methods of constructing earthquakes resisting structure are	Base isolation method	Energy dissipation	Both A & B	None of above
85	..... Utilise frictional force to dissipate energy.	Metallic damper	Viscous damper	Friction damper	Visco-elastic damper
86	..... utilise the deformation of metal element within the damper.	Friction damper	Metallic damper	Viscous damper	Visco-elastic damper

87	..... utilise the controlled shearing of solid	Friction damper	Metallic damper	Viscous damper	Visco-elastic damper
88	..... Utilise the force movement of fluid within damper.	Viscous damper	Metallic damper	Friction damper	Visco-elastic damper
89	The computer controlled sequential layering of materials to create three-dimensional shape is called.....	Road printer	3D printing	Smart road	None of above
90	3D printing is useful for	Prototyping	Manufacturing of geometrical ly complex component	Both A & B	None of above
91	3D printing developed in	1980	1990	1985	1995
92	3D printing also known as	Road printer	Contour crafting	Building printing	Both B & C
93	In terms of material uses, 3D printing is	Expensive	Economical	More expensive	Both A & C
94	Advantage of 3D printing is	Simplicity	Reliability	Precision	All of above
95	The printer able to print complete building and about the inkjet for street, which is called as	3D printing	Road printer	Smart road	None of above
96	..... are both durable & easy to produce and reuse.	Concrete road	Bituminous road	Brick road	None of above
97	..... last a very long time & easy to repair and replace.	Cement paver	Bitumen paver	Brick paver	None of above
98	..... is a machinery for road printing	Road printer	Road roller	Transit mixer	None of above
99	Road printer is wide machine that an repave entire street at once including edge	6m wide	5m wide	4m wide	8m wide
100	Tiger stone requires operators on its platform to provide machine pusher slot with looser bricks from hopper.	1-3	2-4	3-6	4-8
101	The green machines runs entirely on	Water pressure	Fire	Electricity	None of above

102	The green machine moving at the speed of	11 feet/min	12 feet/min	13 feet/min	14 feet/min
103	The road printer is capable of creating roads anywhere from wide	3-20 feet	5-15 feet	5-20 feet	5-25 feet
104	Road printer can lay down about yard of road per day	200	400	600	500
105	Road printer is for unlevelled or untreated ground surface.	Not suitable	Suitable	Both A & B	None of above
106	CAVs stands for	Connected and automatic vehicles	Compare and automatic vehicles	Connected and autonomous vehicles	None of above
107	The main purpose of solar roadway is	Remove asphalt road	Replace asphalt road	Replace asphalt road with solar panel	None of above
108	Each solar panel is roughly of interlocking panels that have their own LED lights	11'×11'	12'×12'	13'×13'	10'×10'
109	Layers of solar road are	Road surface layer	Electronic layer	Base plate layer	All of above
110	..... have high strength layers with photovoltaic cell which attracts sun ray	Base plate layer	Road surface layer	Electronic layer	All of above
111	..... Contain a mini micro processor board that helps control the heating element of the panels.	Electronic layer	Base plate layer	Road surface layer	None of above
112	..... is the layer that collect energy from the sun and distribute the power to homes that are connected to solar roadway	Electronic layer	Base plate layer	Road surface layer	None of above
113	MoDOT stands for	Missouri department of	Maisur development of traffic	Missouri development of	None of above

		transportation		transportation	
114	MoDOT began testing out	3D printer	Smart pavement	Wireless vehicle charging	Road printing
115	OLVE stands for	Offline electric vehicle	Online electric vehicle	Offline electronic vehicle	None of above
116	..... Is the first public transport system that used a recharging road.	OLIV	OLEV	OLEVE	None of above
117	OLEV is first launched on	March 9, 2010	Feb 9, 2010	March 10, 2011	Feb 9, 2012
118	MLV stands for	Metal loaded vehicle	Mass loaded vinyl	Movement of loaded vehicle	None of above
119	..... board are sound proof wall insulation board.	CaO	MgO	SiO ₂	None of above
120	..... Has the world's largest MgO deposit,	India	China	Italy	None of above
121	Tools required for sound proofing are	Chalk gun	Dust mask	Tin snips	All of above
122	Material required for sound proofing are	Dust mask	Cellulose insulation	Acoustical dampening adhesive	Only B & C
123	Water resistant are for low slope roofs less than slope	1:12	3:12	1:6	1:2
124	The doors used for fast access between internal and external areas of building are called	High performance door	Simple door	Automatic door	Both A & C
125	The types of high-speed doors are	Collapse door	Fully glazed door	Full panelled door	None of above
126	The types of high-speed doors are	Clean room door & emergency exit doors	Self-repairing doors & conveyor doors	Both A & B	None of above

127	Benefits of high-performance window are	Improve comfort	Reduced condensation	Lower cost for mechanical equipment	All of above
128	The system of material or primary air enclosure boundary designed and constructed control airflow between a conditioned space and an unconditioned space is called as System.	Water barrier	Air barrier	Heat barrier	Both A & C
129	..... also known house wraps, usually polyethylene fibre or spun bounded polyolefin.	Mechanical attached membrane	Self-adhered membranes	Vapour barrier	All of above
130	Self-adhered membrane also known	Water resistant barrier	Vapour barrier	Both A & C	None of above
131	..... Such as heavy bodies paints or coatings including polymeric based & asphaltic based material.	Mechanically attached membrane	Self-adhered membrane	Fluid applied membrane	All of above
132	..... are typically effective air barrier system if joint seams are sealed	OSB	plywood	Gypsum board	All of above
133	The building material designed to prevent water from getting past the barrier Is called	Air barrier	Moisture barrier	Vapor barrier	Both B & C
134	Material used as vapour retarder are	Polyethylene plastic sheet	Metallized film	Aluminium foil	All of above
135	Vibro stone column are an array of crushed stone pillars placed with a vibrating tool into soil below a proposed structure. This method of ground improvement is called	vibro replacement	Pilling technique	Both A & B	None of above
136	Stone column involves adding vertical column of stone into the ground to a depth at least the ground surface	4m above	4m below	3m above	3m below

137	Vibro-floating is also known	Vibro stone	Vibro replacement	Vibro compaction	All of above
138	Vibrating poker is also known	float	Vibro float	Depth vibrator	All of above
139	Type of vibro floating method are	Vibro compaction method	Vibro replacement method	Vibro displacement method	All of above
140	..... is the densification of granular soil	Vibro compaction	Vibro replacement	Vibro displacement	None of above
141	..... Involved the partial replacement of poor soil material, by flushing out weak soil.	Vibro compaction	Vibro replacement	Vibro displacement	None of above
142	Vibro replacement is used in various soil type that include	Clay	Lateritic soil	Sandy clay	All of above
143	The piles moulded on the spot to serve as deep foundation and highly tensioned stress along the shaft, composed of sand & cement mortar and thoroughly reinforced throughout its length are called as	Micro pile	Major pile	Soil nailing	None of above
144	Micro piles also known	Pin pile	Needle pile	Root pile	All of above
145	Advantages of micro piles are	Fast installation	Allow use of small equipment	Allow low overheads	All of above
146	The types of soil nailing are	Grouted nail	Driven nail	Self-drilling soil nail	All of above
147	..... in this, after excavation the drill holes filled with cement grout.	Grouted nail	Driven nail	Launched soil nail	None of above
148	..... In this, nails are mechanically driven to wall during excavation.	Self-drilling soil nail	Launched soil nail	Driven nail	None of above
149	..... is used to erode the ground and for creating hole to install the steel bars.	Launched soil nail	Jet grouted soil nail	Driven nail	None of above

150	Soil nailing is suitable for	Deep seated landslide	Large slope	Cramped site	All of above
151	The types of vertical drain are	Sand drain	Prefabricated vertical drain	Water drain	Both A & B
152	Sand drains are constructed by drilling holes through the clay layer by using	Rotary drilling	Continuous flight auger	Driving down hollow mandrel	All of above
153	Prefabricated vertical drain also known	Weak drain	Wick drain	Strong drain	None of above
154	PVD is suited in	Clay	Silt	Organic layer	All of above
155	PVDs are used to surcharging process	Increase	Reduce	accelerate	All of above
156	Methods of heating soil in situ are	Ground surface heating	Heating through boreholes	Thermal piles	All of above