April 2020

B.Arch-VIII-04.20-0553 Reg. No. | | | | | | | | |

B

B.Arch. Degree VIII Semester Examination April 2020

AR 1803 DISASTER PREPAREDNESS AND MANAGEMENT

(*2014 Scheme*)

Time: 3 Hours Maximum Marks: 100

PART A

(Answer *ALL* questions)

(8 × 5 = 40)

I. Write short notes on the following:

(a) Difference between hazard and disaster

(b) Risk

(c) Fire mitigation measures

(d) Landslides

(e) Retrofitting methods

(f) Capacity building

(g) Community health

(h) Role of various agencies in disaster management

PART B

(4 × 15 = 60)

II. Based on its geography and geology how vulnerable is India to disasters?

OR

III. Explain in detail man induced hazards.

IV. What mitigation measures are applied during cyclone?

OR

V. Write in brief about preparedness of a community against earthquakes.

VI. Write in detail about making of hazard zoning maps.

OR

VII. How was social media used during Kerala Floods 2018?

VIII. Detail the various components of a disaster management cycle.

OR

IX. How are remote sensing and GIS applications used in real time disaster monitoring?

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A

B.Arch. Degree VIII Semester Examination April 2020

AR 1802 PROFESSIONAL PRACTICE

(*2014 Scheme*)

Time: 3 Hours Maximum Marks: 100

PART A

(Answer ***ALL*** questions)

(8 × 5 = 40)

I. Write short notes on the following:

(a) Functions of Council of Architecture.

(b) Indian Institute of Architects.

(c) Tender document.

(d) Item Rate Contract and Lump Sum Contract.

(e) Resident Engineer.

(f) Role of Umpires.

(g) Double entry and Single entry.

(h) Short comings while running own office.

PART B

(4 × 15 = 60)

II. What are the major guidelines for Architectural Competitions in India according to COA?

OR

III. What are the code of professional conduct laid by Council of Architecture?

IV. Explain in detail the various types of Tenders.

OR

V. Write short notes on

(i) Contract drawings

(ii) Contract sum

(iii) Contract bills

VI. Define Arbitration and discuss the advantages of settling the disputes and differences by means of Arbitration.

OR

VII. Discuss the duties and liabilities of Architect, Employer and Contractor.

VIII. Explain the process of Accounting and different systems of accounting in Building construction.

OR

IX. Explain various levels of management and management practices.

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B

B.Arch. Degree VIII Semester Examination April 2020

AR 1804 CONSTRUCTION MANAGEMENT

(2014 Scheme)

Time: 3 Hours Maximum Marks: 100

(i) *Supplement answers with examples wherever possible*
(ii) *Assume further data, if found necessary*

PART A

(Answer *ALL* questions)

I. Write short notes on the following: (8 × 5 = 40)

(a) Project feasibility report
(b) Depreciation
(c) Time value of money in home building project
(d) Critical Path and its significance
(e) Project crashing
(f) Differentiate between Resource Smoothing and Resource Levelling
(g) Significance of documentation in claims analysis in construction management
(h) Types of network diagrams

PART B

(4 × 15 = 60)

II. A 4 storied commercial building in a particular locality of a city has Ground Floor Area (GFA) of 10000 Sqft. Its unit cost of construction is ₹3500/ sqft. It is speculated that:

(i) For GFA, unit construction cost decreases by 3% for each 10% increase in GFA
(ii) For height, up to 7 storeys, the unit cost of construction remains constant, but increases by 5% per storey beyond that

Find the total construction cost of a G+8 storey high office building of GFA 12500 sqft. in the same locality. Assume all floors areas to be the same. Make other necessary assumptions.

OR

III. Explain Life Cycle of a construction project. What are the various costs involved in a project? Illustrate how costs and expenditure varies during the different stages of a construction project?

IV. For the following PERT problem, what is the probability that the project will be completed in 28 weeks? Use the normal distribution table provided if required. Use the table in Page No.3 for calculation.

Activity		A	B	C	D	E	F	G	H	I
Predecessor		-	-	A	A	C	D	B	E,F	G
Time	Optimistic	2	1	0	1	3	3	1	5	3
	Most Likely	5	10	0	4	10	5	2	10	6
	Pessimistic	14	12	6	7	15	7	3	15	9

OR

(P.T.O.)

V. (a) What is Work breakdown structure? Explain its advantages and disadvantages.

(b) Draw the bar chart for the project below and calculate the total project completion time.

Activity	A	B	C	D	E	F	G	H
Duration (weeks)	2	7	4	3	6	4	6	3

The precedence relationships are as follows

(i) A and B can be performed in parallel

(ii) C and D cannot start until A is complete

(iii) E cannot start until half the work of activity C is complete

(iv) F can start only after activity D is complete

(v) G can start only after two-third of E is complete

(vi) H is the last activity and should succeed F

VI. (a) Explain Critical Path Method in Project Management with an example.

(b) What is earned value of a project?

OR

VII. The normal, crash time and cost details are given for the project below. If the indirect cost is ₹20 per day, crash the activities to find the optimal minimum duration required and the associated project cost for it. Draw the cost-time graph for the project.

Activity	Normal		Crash	
	Time (Days)	Cost (₹)	Time (Days)	Cost (₹)
1-2	6	50	4	80
1-3	5	80	3	150
2-4	5	60	2	90
2-5	8	100	6	300
3-4	5	140	2	200
4-5	2	60	1	80

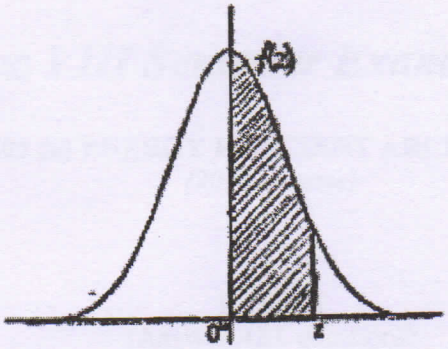
VIII. Explain Project Monitoring. Explain the significance of project monitoring in construction management. Explain in detail any two techniques used in project monitoring.

OR

IX. Explain the various avenues in which project management software can be used in Construction Management. List any three construction management software that you are aware of. Explain the features of any one construction management software.

(Contd...3)

Standard Normal distribution (Area under the standard normal curve)



z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7852
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
3.1	0.9990	0.9991	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993
3.2	0.9993	0.9993	0.9994	0.9994	0.9994	0.9994	0.9994	0.9995	0.9995	0.9995
3.3	0.9995	0.9995	0.9995	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996	0.9997
3.4	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9998

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B

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AR 1805 (a) ENERGY EFFICIENT ARCHITECTURE

(2014 Scheme)

Time : 3 Hours Maximum Marks : 100

PART A

(Answer ***ALL*** questions)

(8 × 5 = 40)

I. Write a short note on the following.

(a) Low energy materials in construction.

(b) Thermal comfort conditions.

(c) Intelligent buildings.

(d) The concept of ICT in smart buildings.

(e) Briefly explain HVAC system in architecture design.

(f) Benefits of Video surveillance.

(g) Differentiate biophlic and non biophlic design concept.

(h) Energy effectiveness of biophilic architecture.

PART B

(4 × 15 = 60)

II. Explain Solar passive techniques and Energy efficient lighting in building design.

OR

III. Explain briefly on photovoltaic systems and solar water heating on modern buildings.

IV. Describe the driving factors of smart buildings in terms of Positive financial effects and energy conservation.

OR

V. Energy efficiency and continuing evolution of technology in smart buildings.

VI. Describe power management and fire alarm systems in smart buildings.

OR

VII. Discuss about the Usefulness of smart buildings especially for the aged peoples.

VIII. Describe the Principles and benefits of biophilic design.

OR

IX. Explain briefly on Energy effectiveness of biophilic architecture.

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C

B.Arch. Degree VIII Semester Examination April 2020

AR 1806 (a) ARCHITECTURAL CONSERVATION

(*2014 Scheme*)

Time: 3 Hours Maximum Marks: 100

PART A

(Answer ***ALL*** questions)

(8 × 5 = 40)

I. Write short notes on the following:

(a) Main objectives of architectural conservation.

(b) ICCROM.

(c) Laterite wall construction.

(d) Defects in stone foundations.

(e) Role of insects in building decay.

(f) Destruction of Bamiyan Buddhas by Taliban.

(g) Value of historic objects.

(h) Conservation documentation.

PART B

(4 × 15 = 60)

II. Describe early conservation during the roman empire leading up to the renaissance.

OR

III. Write in detail about the Burra Charter of 1979.

IV. List various elements of traditional Kerala residential architecture.

OR

V. How is a traditional Kerala roof constructed? What kind of defects form in time?

VI. Briefly describe with a case study on how the Kerala Floods 2018 caused destruction on cultural property and preservation measures taken thereafter.

OR

VII. Detail the various natural factors to cause slow decay of buildings.

VIII. What are the various criteria considered while making inventories of built heritage?

OR

IX. Briefly explain restoration and rehabilitation of a building.

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