2016-17
B. ARCH (SUMMER SEMESTER) EXAMINATION
ARCHITECTURE
CONSTRUCTION AND MATERIALS-II
AR-203

Maximum Marks: 40 Credits: 05 Duration: Two Hours

Answer all the questions. Support your answers with relevant sketches where necessary. Well drafted and neat sketches shall be given extra credit.

<table>
<thead>
<tr>
<th>Q.No.</th>
<th>Question</th>
<th>M.M.</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Write in brief about the following terms: (any four)</td>
<td>[4X2.5=10]</td>
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<tr>
<td></td>
<td>(a) Franki pile</td>
<td></td>
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<tr>
<td></td>
<td>(b) Double span arch</td>
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<td></td>
<td>(c) Laminated glass</td>
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<td></td>
<td>(d) Tool steel</td>
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<td></td>
<td>(e) Intrados</td>
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<td></td>
<td>(f) Jamb</td>
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<td>2</td>
<td>What are the various types of plastics and fibres used in building construction? Write in detail about their characteristics and uses.</td>
<td>[10]</td>
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<td><strong>OR</strong></td>
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<tr>
<td>2'</td>
<td>What are the various types of non-ferrous metals used in building construction? Write in detail about their characteristics and uses.</td>
<td>[10]</td>
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<td>3</td>
<td>Draw the following (any two):</td>
<td>[2x5=10]</td>
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<tr>
<td></td>
<td>(a) Florentine arch with support details</td>
<td></td>
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<td></td>
<td>(b) Round trefoil arch with support details</td>
<td></td>
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<tr>
<td></td>
<td>(e) Fixing detail of a steel window (1200 wide) in a 230 thick wall.</td>
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<tr>
<td>4(a)</td>
<td>What are the precautions to be taken in the construction of a cavity wall? (5)</td>
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<tr>
<td>4(b)</td>
<td>Draw the sectional detail of a lintel in cavity wall                    (5)</td>
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2016-2017
B. Arch III Semester Examination
Ancient Architecture (India & Far East) AR-209
Credit: 03

Maximum Marks: 60

Duration: Two Hours

Answer all questions.

All Questions carry equal Marks.

Draw neat sketches to support your answer.

1. Give an account of the architecture and town planning of the Indus Valley Civilization. (15)

Or

Write short notes on any Two of the following:- (7.5x2)

a) Impact of religion on the development of exclusive style of architecture
b) Great Bath and its utility in Harappan Civilization
c) Sanitation technique of Indus Valley Civilization

2. Describe the characteristic features of the Buddhist architecture in India. Do you agree that it was flourished in the Mauryan period. (15)

3. Describe the characteristic features of the evolution of the temple architecture with special reference to the Dravida style? (15)

4. Trace the salient features of the Jain Architecture with examples. (15)

Or

Write short notes on any Two of the following: (7.5x2)

a) Pagoda- A Buddhist architecture
b) Stupa at Sanchi
c) Vesara style of temple architecture with example
End Semester Examination 2016
Climate and Design | AR-211
Bachelor of Architecture | II-Year | III-Semester
Credits : 4

Attempt all questions.
Attempt ONLY ONE option in questions 2, 4 and 5.
Use as many sketches and illustrations as possible.

Maximum Marks: 60
Duration: 2 hours

1. Differentiate between the following: (5x2=10)
   a. Effective Temperature (ET) and Corrected Effective Temperature (CET).
   b. Solar Azimuth and Solar Altitude.
   c. Flux of Light and Illumination.
   d. Solar Insolation and Solar Irradiance.
   e. North Light and Light Shelf.

2. What are the adverse effects of precipitation on different parts of buildings? (10)
   OR
   How is the position of the sun recorded for any location on the earth, and how does it help in the design of shading devices?

3. Answer the following briefly: (5x3=15)
   a. How does the altitude/elevation of a place affect its air temperature?
   b. How can designed water bodies be used to control temperatures in buildings?
   c. Describe two major factors which would contribute to heat gain of a building in Aligarh.
   d. What is the day light factor?
   e. What are diurnal variations of temperature?

4. Describe the process of temperature inversion. Use neat sketches to illustrate. (15)
   OR
   Describe in detail, the movement of wind around buildings placed in a grid iron layout. Use neat sketches to illustrate.

5. Describe passive means of climate control wrt any two of the following points: (10)
   a. Orientation
   b. Landscaping
   c. Building form
   OR
   Write short notes on any two of the following:
   a. Chimney effect
   b. Intelligent Buildings
   c. Ventilation of roof spaces.
B.TECH. (AUTUMN SEMESTER) EXAMINATION
CIVIL ENGINEERING
WATER SUPPLY AND SANITATION
AR 217

Maximum Marks: 60
Credits: 03
Duration: Two Hours

Answer all the questions.
Assume suitable data if missing.
Notations used have their usual meaning.

Q.No.   Question                                                                 M.M.

1(a)   Draw the layout of a water supply connection for a residential building and briefly
        explain the function of each component.                                [06]

1 (b)  Describe the different water demands. Briefly explain how the variations in hourly
        water demand are met out?                                             [09]

2 (a)  Draw water treatment flow sheet for surface and ground water sources of water
        supply. Explain the process of coagulation and flocculation process.   [05]

2 (b)  Differentiate between direct pumping and combined pumping and gravity system of
        water distribution. Water is to be supplied to a locality at the rate of 135 lpcd for a
        population of 50 thousand peoples through pumping from a reservoir. The
        difference in elevation between the water source and the delivery point is 35 m. The
        total length of the pipe is around 1200 m. If the velocity in the pipe is to be assumed
        as 1.4 m/s find the diameter of the pipe and the brake horse power of the pump
        required to supply the desired amount of water. Take the value of friction factor as
        0.02 and efficiency of pump as 60%.                                      [10]

OR

2' (a)  Water is supplied to a town from a pump house (A) as well as from an elevated
        reservoir (C) 45 m above M.S.L. to a locality (B). The pump pressure was 550 KPa
        and the desired water pressure at load centre (B) is 220 KPa. The average elevation
        of pump at A was 3.0 m above M.S.L and that of load centre was 5.0 m above

        Contd... 2
M.S.L. Calculate the total discharge of water reaching at B. The length and diameter of pipe from A to B are 1000 m and 200 mm respectively while that from C to B was 900 m and 150 mm respectively.

2' (b) What are the different population forecasting methods? Briefly explain any two of them.

3 (a) With the help of sketches explain the functioning of any two types of water taps

OR

3' (a) Briefly explain the aeration and water softening processes of water treatment.

3 (b) Draw sewage treatment flowsheet and briefly explain the purpose of various primary treatment units.

4 (a) Differentiate between conservancy and water carriage systems of sanitation

4 (b) What is the objective of sewage pumping station?

4 (c) With the help of sketch explain the functioning of Activated Sludge Process

4 (d) Briefly describe the objective of wastewater disinfection. Explain breakpoint chlorination.
CONVENIENT SHOPS

Design and present a convenient shops plaza for a Housing colony sector at Aligarh on a site measuring 100 mts x 70 mts on a 30 mts wide Road in the west of the site adjacent to Swan Jainti Nagar Aligarh.

Design the building/site with following features/facilities.

* Front Park & Parking for 2 Buses/Vans, 10 Cars, 40 Cycles/Motorcycles.

* Entrance veranda and shopping arched with provision of the following areas.

* 16 small shops for grosser, green grosser, tailor, barber, daily needs, photocopy/reprographics/computer services, ATM, etc.
* 6 large shop with outdoor spill over areas for general store, milk & milk products vendor, sweets shop/halwai, cyber café, ata chakki, beauty parlour, etc.
* 4 large showrooms
* 2 nos. Spaces for insurance/bank

Suitable terraces for interaction and eating on ground and first floor.
Design two storied structure with restricted toilets, drinking water fountains and other ancillaries required for functioning of a convenient shop plaza.

Present your scheme through following drawings

* Site Plan (indicating sited structure, entry/exit with pedestrian/vehicular ways parking park and landscape terraces).

* Floor Plans, two elevations and two sections.

* Concept(Viva)
Maximum Marks: 60  
Credits: 02  
Duration: Two Hours

*Answer all the questions.*  
*Assume suitable data if missing.*  
*Notations used have their usual meaning.*

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<td>What do you understand by roles, norms and values in a society? Explain in detail in the context of social functions.</td>
<td>15</td>
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<tr>
<td>2</td>
<td>Describe the factors responsible for creating social status and social stratification in human society and trends of changes through industrialization in ascribed and earned social status with suitable examples.</td>
<td>15</td>
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<tr>
<td>3</td>
<td>Explain the process of Modernization and Urbanization, as well as Migration, slums and new classification reflecting in Indian social housing such as LIG, MIG and HIG etc.</td>
<td>15</td>
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</tbody>
</table>
| 4     | Explain any three of the following in detail  