Q.1. Explain the following terms (any four): 
   i. Skewback
   ii. DPC
   iii. Annealing
   iv. Franki Pile
   v. Raft foundation

   \[ (4 \times 2.5 = 10) \]

Q.2. 
   a) Write about the Architectural applications of lead and tin?
   
   \[ (5) \]
   b) Explain Bayer's process in detail with a neat diagram.

   \[ (5) \]

Q.3. Draw the construction detail of Steel railing measuring 1050mmx3000mm giving the following details
   a) Plan
   b) Section
   c) Elevation

   \[ OR \]

Q.3'. Draw the construction detail of Brick Jali measuring 3000mmx3000mm giving the following details
   a) Plan
   b) Section
   c) Elevation

   \[ (10) \]

Q.4. Draw construction details of the following:
   Multi-foiled arch with support details
2012 – 2013
B.Architecture Autumn (III Semester) Examination
Architectural Drawing II
(AR-205)
Credits: 04

Maximum Marks: 40
Duration: Three Hours

Note: Answer all the questions.
Assume suitable data if missing.
Don’t erase construction lines.
Neat and good drafted drawings will be credited.

1. Draw a composition using two rectangles of 60×40mm size, two square of 40×40mm and one circle of dia 50mm and render it with various textures. [10]

2. A cylinder of base diameter 60mm and height 80mm is centrally kept over a square prism of base side 30mm and height 60mm. Draw siagraphy of the object in plan and elevation, if sun rays are inclined at 45° to ground level and at 45° to vertical plane in plan.

OR

2'. Draw siagraphy in plan and elevation of the object shown in fig-1, if sun rays are inclined at 45° to ground level and at 45° to vertical plane in plan [10]

3. An octagonal pyramid of base side 25mm and height 80mm is resting on ground in such a way that its two base sides are parallel to vertical plane. A plane perpendicular to V.P. and inclined at 45° to H.P. is cutting the pyramid at height 40mm on central longitudinal axis of the pyramid. Draw the development of the lateral surface of truncated lower part of the pyramid. [10]

4. Draw isometric view of the object shown in fig-1. [10]
Fig. 1
Note: Make sketches to support your answers. Answer only FOUR questions in all. Question No. 5 is compulsory.

1. Discuss the important buildings of the following period.
   (a) Indus Valley Civilization.
   (b) Vedic Civilization.

2. Discuss the evolution of temple plan and elevation in Hindu Architecture.

3. Explain briefly the impact of religious beliefs and practices on the development of architectural style.

4. Discuss significant characteristics features of NI, CI and SI Hindu architecture.

5. Write short notes on any FIVE.
   (a) Chaitya at Karle
   (b) Adinath Temple
   (c) Sun temple, Kanark
   (d) Khajuraho temples
   (e) Shore temple
   (f) Durga temple, Aihole
2012 – 2013

B. ARCHITECTURE AUTUMN (III SEMESTER) EXAMINATION
CLIMATE AND DESIGN

(AR – 211)

Maximum Marks : 60

Credits: 04

Duration : Three Hours

Note: (i) All questions carry equal marks.
(ii) Explain your answer with proper sketches which carry due weightage.

1. Explain various elements of climate and their behaviour during various seasons and formation of climates.

2. Explain human heat balance and comfort with heat stress index, effective temperature and bio-climatic analysis for climatic design of building.

3. Explain any THREE of the following:
   (a) Diurnal variations and temperature inversion
   (b) Human body response to heat and cold.
   (c) Instruments measuring climatic data.
   (d) Precipitation.
   (e) Energy efficient architecture.
   (f) Calculation of solar constant and intensity of solar radiations on any day.

4. Explain importance of Mahoney table and its salient features to find guidelines for climatic design at any city.

5. Explain any TWO of the following in detail.
   (a) Techniques of passive climatic control for roofs, walls, openings and floors along with orientation.
   (b) Wind and ventilation along with wind pattern in and around buildings.
   (c) Sun path diagram and designing of the Louvers.
   (d) Glare; and designing of the windows for day light.
   (e) Time lag, Decrement factor and heat transfer in exposed conditions in buildings.
2012 2013
B. Arch. Autumn (III Semester) Examination
Water Supply and Sanitation
(AR 217)
CREDITS: 03

Maximum Marks: 60
Duration: Three Hours

Instructions to Examiners
1. Attempt all questions
2. Assume missing data suitably
3. Use of attached Nomograph permitted

Q. 1 Describe in detail the physical, chemical and biological water quality parameters. Also explain the different water borne diseases. (12)

OR

Q. 1' (a) Describe the different surface sources of water supplies. Differentiate between the qualities of surface and subsurface sources of water supplies. (10)
(b) Briefly explain the health effects of presence of fluoride and nitrates in water supplies. (2)

Q. 2 (a) Draw the water treatment flowsheets for surface and subsurface sources of water supplies. (3)
(b) With the help of sketches describe the functioning of grid iron and circular systems of water distribution. (6)
(c) Briefly explain how the water demand is met during peak hours of water demand. (3)

Q. 3 (a) Differentiate between conservancy and water carriage systems of sewage disposal. (4)
(b) Describe the method of hardness removal by lime soda process. Write down the different equations involved. (4)
(c) A 400 mm diameter sewer is laid at a slope of 0.003 m/m. Calculate the discharge and velocity of flow when the sewer is flowing at a depth of 250 mm. Use of attached nomograph and partial flow diagrams is permitted. (4)

OR

Q. 3'(a) Describe the functioning of a septic tank. Briefly explain the significance of provision of baffle walls in a septic tank. Design a septic tank for 40 users. Assume wastewater contribution per person per day as 60 L. (8)

(b) Describe in detail disinfection process using chlorine as a disinfectant. (4)

Q. 4. Discuss in detail the building drainage systems. Support your answer with neat sketches. (12)

Q. 5(a) Explain the different types of sanitary appliances used in buildings. Also write their specifications. (6)
(b) Draw the sewage treatment flowsheet and briefly describe the function of each unit. (6)
Time: 6 Hours

Note:-
1. Attempt all questions.
2. Assume any missing data.
3. Neat and good drafted drawings will be credited.

**Duplex House**

A famous artist wants to construct his duplex house on site measuring 10 m X 18 m having road towards north on shorter side of site. The site is located at Vikram colony in Aligarh. You are requested to design the said duplex house with design requirements as given below and represent your scheme with plan/s, elevation/s and section/s on suitable scale.

**Design Requirements:-**

1. Drawing Room
2. Master Bed Room (with attached toilet)
3. Bed Room
4. Children’s Bed Room
5. Living/Dining
6. Kitchen
7. Parking (for one car)

Front and rear set-backs are 3 meters.

**Drawings Requirements:-**

1. All Plan/s + V1 V2
2. Elevation/s
3. Section/s

- 25 Marks
- 08 marks
- 07 marks
A SMALL CRECHE AT AMU

To ensure better prosperity many young couples are employed. This demands a better daytime care, facilities for their kids ranging from infants to six years age. The facility must include sleeping/resting/reading indoor/watching T.V./eating and outdoor playing etc.

You are required to design a small Creche for Aligarh Muslim University. Site measuring 22 m X 33 m having approach road toward west on shorter side is located near Allama Iqbal Hall, AMU, Aligarh.

Design Requirements:

- **SPACE REQUIREMENT**
  1. Care takers office
  2. One hall for infants to 3 years of age with attached toilet
  3. One hall for kids between 3-6 years with attached toilet
  4. Kitchen/pantry
  5. Store
  6. General toilet for male and female
  7. Parking for 2 cars and 5 two wheelers

- **AREA**
  1. 2 sq.m.
  2. 50 sq. m. (including toilet)
  3. 50 sq. m. (including toilet)
  4. 10 sq. m.
  5. 5 sq. m.
  6. 10 sq. m.
  7. As required

Drawings Requirements:

1. All Plan/s (1:50 Scale)  
2. Elevation/s (1:50 Scale)  
3. Section/s (1:50 Scale)
End Semester Examination 2012-13
B. Arch III Semester
HU 208 Man, Society and Building
Credits: 02

Maximum Marks: 60
Duration: 3 hr

Q.1 (a) Define the following terms (any three) (3x3x9)
   i. Society
   ii. Social structure
   iii. Social mobility
   iv. Social policy
(b) What role does society play in the development of an individual? (6)

Q.2 Differentiate between the following concepts (any three) (5x3x15)
   a) Capitalism versus Communism
   b) Class system versus caste system
   c) Closed system versus open system
   d) Traditions versus modernisation

Q.3. What is the impact of western practices and customs on the Indian marital
      institution and how is it affecting the Indian family values? (10)

Q.4. (a) Discuss in detail the implications of child labour on the society. (5)
   (b) Enumerate and discuss the factors responsible for child marriages
      in the Indian society. (5)

Q.5. (a) What role does unequal distribution of resources play in Indian housing
      scenario. (5)
   (b) How can societal progress help in solving the problems of slums. (5)