Name of the Department: University Polytechnic, AMU

MINUTES

The ordinary meeting of the Board of studies of the Civil Engineering Section, University Polytechnic, AMU was held on 02-05-17 at 3.00 P.M. in the Conference Room, University Polytechnic. The following were present:

1. Prof. Syed Iqbal Ali Principal (In the chair)
2. Mr. Rizwan Ur Rehman Khan Associate Professor & Incharge
3. Mr. Azhar Jameel Associate Professor
4. Dr. Mohd. Mohsin Associate Professor
5. Mr. Mohd. Kafi Associate Professor
6. Mr. Mohd. Israil Associate Professor
7. Mr. Suhail Ahmad Khan Associate Professor
8. Mr. Mazhar Ali Associate Professor
9. Mr. Arshad Husain Associate Professor
10. Dr. Ahmad Ashfaq Assistant Professor
11. Mr. Mohd. Idris Assistant Professor
12. Mr. Jan Nisar Akhtar Assistant Professor
13. Ms. Sadaf Ahmad Assistant Professor
14. Mr. Mohd. Danish Assistant Professor
15. Dr. Mohd. Ayaz Assistant Professor
16. Mr. Ahmad Bilal Assistant Professor
17. Mr. Md. Shaheer Ali Assistant Professor
18. Mr. S.M. Talha Assistant Professor
19. Dr. Moazzam Aslam Assistant Professor

RECOMMENDATIONS OF THE BOARD OF STUDIES MEETING

Item No 1: The minutes of earlier meeting of Board of studies of Civil Engineering Section held on 29/03/2016 confirmed.

Item No 2: Recommended the teaching load for the session 2017-18 for I, II, III, IV, V and VI Semesters Diploma in Engg. (Civil) & I, II, III, IV Semesters Advance Diploma in Food Technology and I and II Semesters Advance Diploma in Environmental Engineering (Annexure I)

Item No 3: Recommended the Examiners and Moderators for the session 2017-18 for I, II, III, IV, V and VI Semesters Diploma in Engg. (Civil) & I, II, III and IV Semesters Advance Diploma in Food Technology and I and II Semesters Advance Diploma in Environmental Engineering (Annexure II- Confidential and not to be circulated). Moreover, the moderators were appointed and approved as examiners for reevaluation work.
Item No 4: It was recommended that out of the two budgeted posts of Guest Teachers in the section, the qualifications for one post would be B.Tech.(Food Technology)/B.Tech.(Chemical Engineering) and M.Tech.(Food Technology) / M.Tech.(Chemical Engineering), as there is full teaching load of two teachers in Food Technology and there is only one permanent teacher.

Item No 5: Item withdrawn.

Any other item:

Item No 6: The Board approved minor changes in the syllabi of BCE 605A, BCE 605C, BCE 301, BCE 405, ADFT 5291, ADFT 5303 and ADFT 5391 (Annexure III).

Item No 7: It was recommended that the teacher in the Mechanical Engineering Section engaging subject similar to Entrepreneurship Development (ADFT-5305) of III–semester Advance Diploma in Food Technology will teach the two classes together in one combined class.

Item No 8: The two courses of Basic Chemical Engineering (BKE-501) of I\textsuperscript{st} Semester Advance Diploma in Food Technology & Basic Chemical Engineering (BKE-501) of V\textsuperscript{th} Semester Diploma in Plastic Technology, being similar, will be taught together in one combined class.

Item No 9: It was recommended to merge the courses Technical drawing (BCE-204) of LFT (II Semester) and Engineering drawing (BCE-407) of Electronics Engineering (IV Semester) subject to the approval by the respective sections.

Item No 10: The provision in the academic ordinances of Mechanical Engineering section regarding imposing penalty for not submitting the examination form on time must be implemented for Civil engineering section as well. The revisions of ordinances in this regard are proposed.

Item No 11: Recommended the names of two assigned members of the Board of Studies of Civil Engg. Section, University Polytechnic:

1. Prof. D.R. Kaushal  
   Department of Civil Engineering  
   IIT, Delhi  
   New Delhi

2. Mr. Haider Azam, Assoc. Professor  
   Civil Engineering Section, University Polytechnic  
   Jamia Millia Islamia  
   New Delhi

\[\text{Incharge}\]
\text{Civil Engg. Section}
\text{University Polytechnic}
\text{A.M.U., Aligarh}

\[\text{Principal}\]
\text{University Polytechnic}
\text{A.M.U., Aligarh}
Item No 12: Recommended the names of two co-opted members of the Board of studies of Civil Engg. Section, University Polytechnic:

1. Prof. I.H. Farooqi  
   Department of Civil Engineering  
   ZH CET, AMU  
   Aligarh

2. Prof. Amjad Masood  
   Department of Civil Engineering  
   ZH CET, AMU  
   Aligarh

At the end of the meeting the Chair and the members of the Board of studies welcomed the new members who have joined the section. The Principal thanked all the members for their cooperation and support during his tenure as Principal. The members of the BOS unanimously acknowledged the services of Prof Syed Iqbal Ali as Principal, University Polytechnic and thanked him. After that, the meeting came to an end.

(Mr. Rizwan Ur Rehman Khan)  
Incharge, CES.

(Prof Syed Iqbal Ali)  
Principal

Incharge  
Civil Engg. Section  
University Polytechnic  
A.M.U., Aligarh
REvised
DIPLOMA IN CIVIL ENGINEERING
VI-SEMESTER
HYDRAULIC STRUCTURES
(ELECTIVE COURSE)
(BCE-605A)

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<th>Pds./Week</th>
<th>Duration of Exam.</th>
<th>Max. Marks</th>
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CONTENTS

Unit-I
Creep theories: Bligh’s theory, Lane’s theory and Khosla’s theory. Problems on pressure calculations, corrections, thickness of floor and exit gradient. Barrage: Dimensional sketch, components and their working, Hydraulic design of head regulator. 40%

Unit-II
Dams: Introduction, Classification: according to use, hydraulic design and material. Gravity dams, Arch dams, Buttress dams, Timber dams, Earthen dams. Physical factors governing the selection of type of dams, Selection of a site for a dam. Forces acting on gravity dams, Water pressure, Weight of the dam, Uplift pressure. Elementary profile of a gravity dam 20%

Unit-III
Reservoir: Introduction, Zones of storage in a reservoir, Determination of yield of reservoir, Sediment flow in streams: Reservoir sedimentation, Trap efficiency, Density Current, Reservoir sediment control, Determination of life of reservoir. 20%

Unit-IV
Cross Drainage Works: Introduction, Various types of cross drainage works, Hydraulic design of aqueduct and siphon aqueduct, Selection of suitable type of cross drainage work, Feature of designing of cross drainage work, Fixation of waterway of the drain, Clearance and freeboard: IS code recommendations. 20%

Reference Books
1. Theory & Design of Irrigation Structures (Vol-I & II) by R. S. Varshney
2. Irrigation Engineering & Hydraulic structures by S. K. Garg
3. Irrigation And Water Resources Engineering by G. L. Asawa
DIPLOMA IN CIVIL ENGG
VI - SEMESTER
ADVANCE CONSTRUCTION TECHNOLOGY
(ELECTIVE COURSE)
(BCE-605C)

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**CONTENTS**

**Unit-I**

Construction equipments: Selection of construction equipment, excavation and transportation equipment, hoisting equipment, conveying and hauling equipment. Soil stabilization and compaction equipments; Mixers, dewatering equipment; Economic life of construction equipment.

**Unit-II**

Drilling blasting & tunnelling equipments:

Explosives: Types, storage, transportation, handing & precautions of explosives, Drilling operation, stemming of bore holes, Detonators, firing the holes.

Tunnelling: Types, location; alignment and grade of tunnels; dewatering & ventilation of tunnels

**Unit-III**

High rise buildings: Constructions techniques for high rise building e.g. chimneys & cooling towers. Special problems of high rise constructions. Advantages and disadvantages of high rise buildings.

Rain water harvesting: Importance & methodology of rain water harvesting.


**Unit-IV**

Prefabrications: Introduction, advantages and disadvantages, classification and planning requirement in prefabricated construction. Few types of prefabricated elements.

Special Foundation: Foundation on expansive soil. Foundation grouting purpose, material used for grouting; Asphalt & Chemical Grouting.

Environmental issues in construction: Pollution due to thermal & nuclear power plants.

**Unit-V**

Fabrication Processes: Meaning & need of fabrication, welding, casting, riveting, threaded jointed.

Organization of large structural components: Different departments involved & their welding.

Fabrication shop: Difference between general drawing & shop drawing. Meaning of templates & their importance.

Erection of Steel structures: Meaning & need of erection of steel structures. Erecting equipments, methods & precaution.
CONTENTS

Unit-I: Wastewater Classification, Variation in wastewater flow rates, Wastewater Characteristics: Physical, Chemical and biological Characteristics, Biochemical Oxygen demand, Chemical Oxygen Demand, BOD Kinetics, Wastewater effluent standards, Population equivalent. 20%

Unit-II: Wastewater treatment flowsheets, Screening, Grit removal, Sedimentation, Activated sludge process (ASP), Stabilization ponds, Trickling filters, Wastewater irrigation and reuse, Anaerobic treatment, Sludge treatment and disposal. 20%

Unit-III: Wastewater Collection Systems, Classification, Types of sewers and drains. Sewer Materials, Sewer appurtenances: Manholes, Street inlets, Catch basins, Grease & Oil traps. Maintenance, Cleaning and Ventilation of Sewers. 20%

Unit-IV: Air Pollutants: Classification, Sources and Generation. Effects: materials, health and plants. Air quality monitoring, Standards, Meteorology, Stack height. Air pollution control methods. 20%

Unit-V: Solid Waste: Classification, Sources and Characteristics, Waste Management: Generation, Collection, Storage & Transfer, Processing and Disposal. Biological and Thermal Conversion Processes. 20%

Reference Books:
DIPLOMA IN CIVIL ENGG
III- SEMESTER
ENVIRONMENTAL STUDIES & WATER QUALITY
(BCE-301)

Annexure:III
BOS: 02.05.2017

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CONTENTS

Unit-I: Definitions of Environmental Science, Environmental Engineering and Environmental Management. Concepts of Ecology, Food chain, Food Web. Types of Pollutants, Air Pollution, Water Pollution, Land Pollution, Noise Pollution, Odor Pollution, Thermal Pollution. Classification, sources, effects and control measures. 20%

Unit-II: Global Warming, Acid Rain, Ozone depletion, deforestation and desertification. Role of Non-Conventional sources of energy for environmental pollution control. Basic concepts of Environmental Impact Assessment (EIA), EIA Objectives, Operating and Guiding principal, Environmental awareness, public participation, Environmental case studies. 20%

Unit-III: Sources of water supply, Intake works, Pumps, Water demand: Classification, Factors affecting and Variation, Population prediction methods, Water distribution systems. 20%


Unit-V: Water treatment Processes: Flowsheets, Screening, Aeration, Sedimentation, Coagulation, Flocculation, Filtration, Softening and Disinfection. 20%

Reference Books:-

Principal
University Polytechnic
A.M.U., Aligarh
Product development and water quality Lab
Course No: ADFT-5391
Sessional Marks: 150

Pds/Week-06
Total Marks: 250

1. Preparation of Jam
2. Preparation of Jelly
3. Preparation of Pickle
4. Preparation of Puree
5. Preparation of Paste
6. Preparation of Ketchup
7. Preparation of RTS beverage
8. Preparation of a dehydrated food product
9. Study of laboratory canning unit
10. Determination of hardness in a given sample of water
11. Determination of BOD in a given sample of water
12. Determination of COD in a given sample of water
13. Determination of total solids (TS), total suspended solids (TSS) and total dissolved solids (TDS) in a given sample of water

Principal
University Polytechnic
A.M.U., Aligarh
Bakery and Dairy Technology Lab
Course No: ADFT-5291
Sessional Marks: 150

1. Study of bakery equipments
2. Determination of Gluten content of wheat flour
3. Determination of alcoholic acidity of wheat flour
4. Determination of dough-raising capacity of yeast
5. Preparation of bread
6. Preparation of salty Biscuits
7. Preparation of sweet Biscuits
8. Preparation of sponge Cake
9. Preparation of decorated Cake
10. Preparation of Pizza base
11. Preparation of Cottage Cheese
12. Preparation of Khoa
13. Preparation of Chhana
14. Determination of TSS, Specific gravity and SNF of milk using lactometer
15. Study of mini pasteurization plant

Principal
University Polytechnic
A.M.U., Aligarh
Environmental Pollution and Management

Course No: ADFT-5304  
Sessional Marks: 25

Unit-I: Introduction: Types of Pollutants, Air Pollution, Water Pollution, Land Pollution, Types of physical, chemical and biological impurities present in water, water demand in food industry, drinking water standards (IS-10500) and quality tolerances for water for processed food industry(IS-4251), effects of water quality parameters on food industry.

Unit-II: Water Treatment: Flowsheets, Aeration, Sedimentation, Coagulation & Flocculation. Types of hardness: Temporary and permanent hardness and their removal, water softening using ion exchange column, methods of disinfection and selection criteria for disinfectants.

Unit-III: Wastewater Treatment: Magnitude of wastewater generation in food industries, wastewater treatment units and their functions, preliminary treatment system, primary treatment, biological/secondary treatment system using Activated Sludge Process and Trickling Filter.


Unit-IV: Solid waste management: Classification, sources, and characterization, Generation, Collection & Transfer of municipal solid waste. Treatment methods: Pelletization, Incineration, Composting and biogas generation.

Reference Books: