SUBJECT CODE NO:- E-711
FACULTY OF ENGINEERING AND TECHNOLOGY
F. Y. Arch. Examination Nov/Dec 2017
DFA-II
(Revised)

[Time: Three Hours]   [Max.Marks:100]

Please check whether you have got the right question paper.

N.B
1) Question No.1 from Section 'A' and Question No. 5 from Section 'B' are compulsory, out of the remaining three questions from each section, solve any two.
2) Answers to the two sections must be solved on same answer books.
3) Wherever necessary, support your answers with neat sketches.

SECTION A

Q.1   a) What are factors which contribute for performing human activities efficiently in a built environment?   14

       b) Describe the impact of built environment on human activities, give examples.   10

Q.2   Describe the circulation pattern for an educational institution.   13

Q.3   Describe the impact of climate on the built environment.   13

Q.4   "New technologies are influencing the form and aesthetics of a built environment". Justify the statement.   13

SECTION B

Q.5   a) Show how the early civilization were the mode of aspiration for the people and compare it with present trend in architecture.   14

       b) Explain with sketches path and space relationship.   10

Q.6   Describe how built environment has undergone changes with modern construction technique and structural concepts.   13

Q.7   Explain how physical properties of a site have an impact on the form of a built environment.   13

Q.8   Describe giving examples how the use of different material can enhance the aesthetics of a building.   13

2017

Subject Code : 701

Architectural Building Construction & Materials - II

Time: Four Hours   Max. Marks: 100

### "Please check whether you have got the right the question paper"

Note: i)   *Solve Section A on drawing sheet and Section – B on answer sheets.*
        ii) *Solve any Two questions from Section A and Any three questions from Section B.*
        iii) *Draw proper / neat sketches wherever necessary.*

SECTION – A

Q.1   A living room of a bunglow is to be provided with a corner window in T.W. The size of a living room is 5.50mt x 3.30 mt. The window is placed at the corner as shown in Fig.

　　　　The walls are 230 mm thick brick wall . Take width of one leaf of a shutter 500mm.

　　　　The window is fully openable and fixed 900 mm above floor level.
The total height of the window is 1.25 mt.
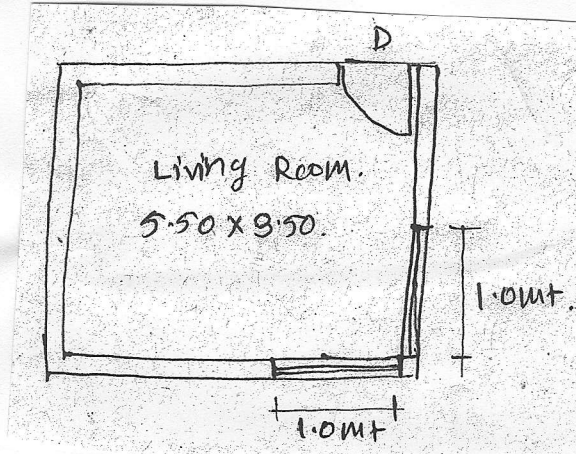
Draw :-
(i)   Plan, Elevation and section – 1:10   11
(ii) Draw large scale details of :   08
      (a) Joint of T.W. post in the centre fixing the sill and head of the window.

      (b) Fixing of glass   08

      (c) Show the placement a lintel above the window.   08

Q.2   Draw neat sketches of any Five :   35

(i)   Sliding mechanism of sliding door.

(ii)   Fixing of A.C. sheets

(iii) Lean to roof details

(iv)   Louvered window

(v)   Vertically pivoted window.

(vi)   Fixing of king post, struts and tie beam.

P.T.O.

E – 2017

Q.3 Design a T.W. door for a study room measured 3.0 mt. x 2.5 mt.
The door is having T.W. louvers in top panels. (Portion above lock rail) and fixed T.W. panel at bottom portion. (Below the lock rail).
Take size of door – 1.0 x 2.1 mt.
Size of style – 125 x 35 mm
T.W. louvers – 10 mm thick
Size of T.W. frame – 100 x 75 mm.

Draw :
(i) Plan, Elevation and section (1 : 10)   14

(ii) Draw large scale details of :

(a) Fixing of T.W. lourvers of style   07

(b) Fixing of T.W. style and T.W. panels.   07

(c) Fixing of head and post of door   07

SECTION – B

Q.4 Describe the method of laying Indian patent stone flooring.   10

Q.5 Define and explain the term water – cement ratio and its importance in concrete mix.   10

Q.6 What is pointing? Discuss various types and methods of construction of it.   10

Q.7 Write short notes on (Any Four) :   10
(i)   Machine mixing of concrete
(ii)   Selection criteria for roofing materials.
(iii) Plastering on old brick work.
(iv) Fixing of A.C. sheets.
(v)   Ground floor timber flooring.

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E – 2017

SUBJECT CODE NO: E-706
FACULTY OF ENGINEERING AND TECHNOLOGY
F. Y. Arch. Examination Nov/Dec 2017
T.D.S.I
(Revised)

[Time:3:00 Hours]   **[Max.Marks:100]**

Please check whether you have got the right question paper.

N.B
- i.   No supplements will be provided.
- ii. Do not write anything on question paper.
- iii. Question No.1 is compulsory.
- iv. Out of remaining questions, solve any five.
- v.   Assume suitable data, if necessary.

Q.1   a) A mild steel specimen was tested in tension and following results were obtained.   16

- i)   Diameter of the specimen=20 mm
- ii)   Length of the specimen=0.2 m
- iii) Extension under load of 10 KN =0.032 mm
- iv)   Load at yield point = 82 KN
- v)   Maximum load = 133 KN
- vi)   Length of specimen after fracture= 0.252 m
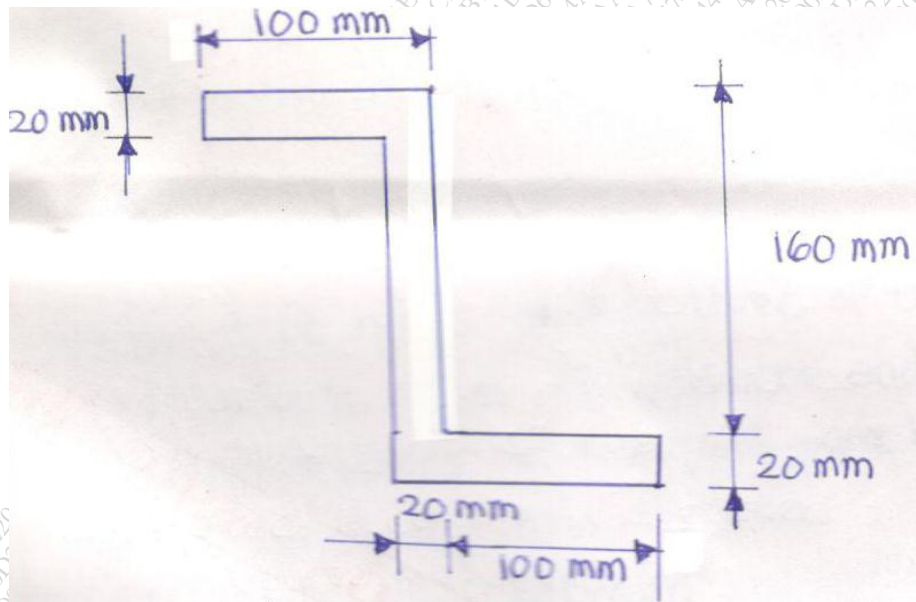- vii) Diameter at the neck =12.6 mm

Calculate
- a) Young's Modulus
- b) Ultimate stress
- c)   Percentage elongation
- d) Working stress if factor of safety is 2

2017

b) A brass bar having a cross-sectional area of 500 mm² is subjected to axial forces as shown in the following figure. Find the total change in length of the bar. Take $E = 0.8 \times 10^5$ N/mm²   09

A   B   C   D
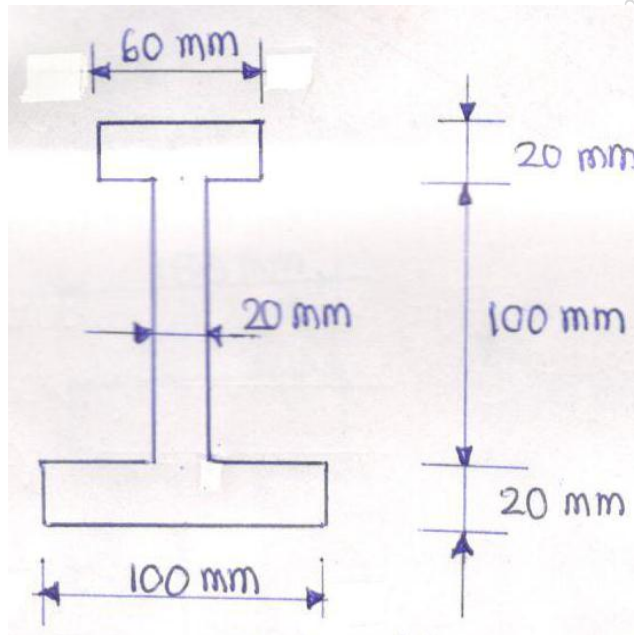
100 kN| 80 kN   50 kN   30 kN

|← 0.5m →|←   1 m   →|←   1.2 m   →|
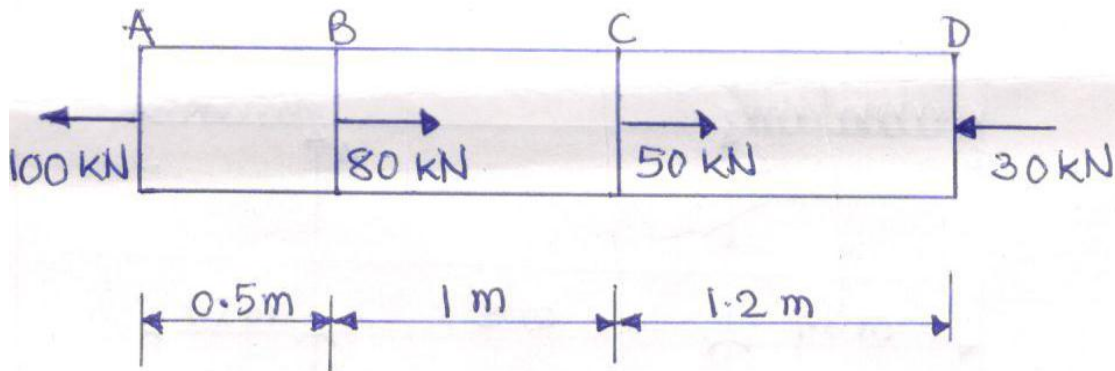
Q.2   Determine the centroid of the following section.   15

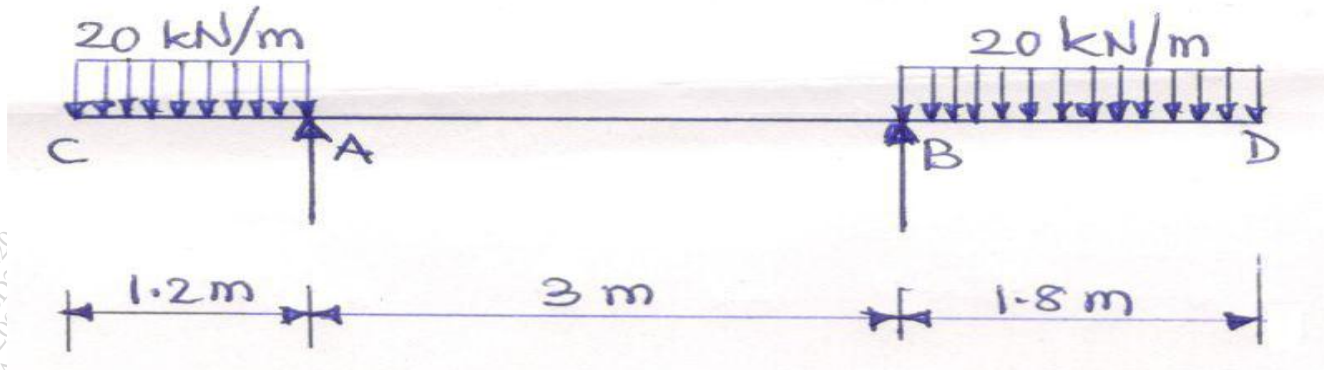|← 100 mm →|

20 mm

160 mm

20 mm

20 mm

100 mm

Q.3   Find the moment of inertia of the following figure about its horizontal axis passing through centre of   15
gravity of the section.

Q.4   Draw the shear force and bending moment diagrams for the following beam.   15

Q.5   Write short notes on any three of the following.   15
   a)   Various types of supports and beams.
   b)   Assumptions in theory of pure bending.
   c)   Perpendicular axis theorem.
   d)   Relationship between shear force and bending moment with respect to their diagrams.

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Q.6   A beam with T section as shown carries a uniformly distributed load of 40 KN/m over a span of 10 m. 15
Calculate the maximum stresses produced due to bending.
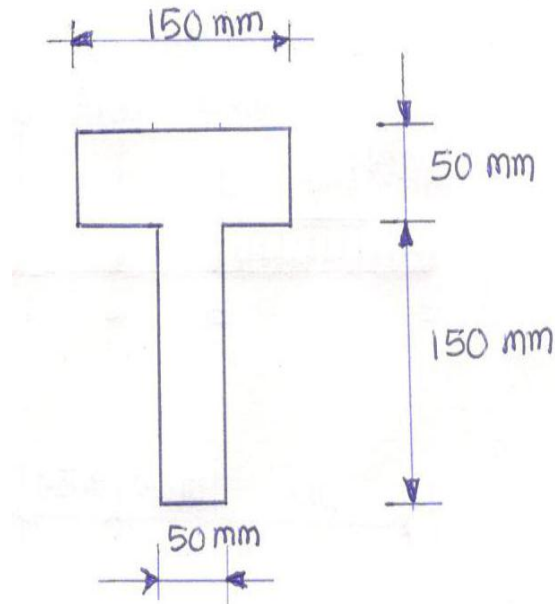
Q.7   Determine the forces in members AB, AE, CD and ED for the frame shown in the following figure.   15
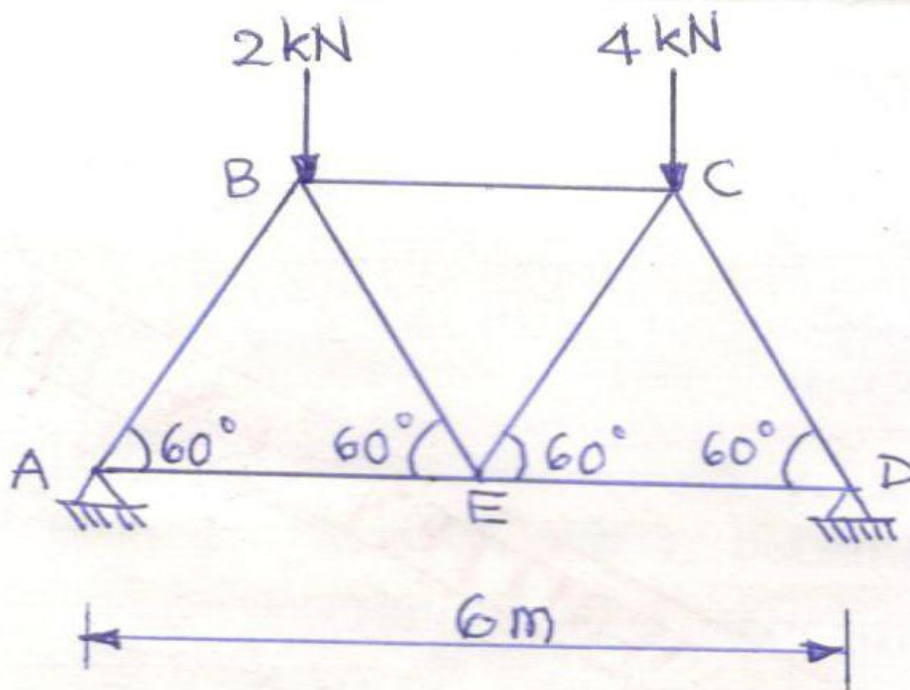
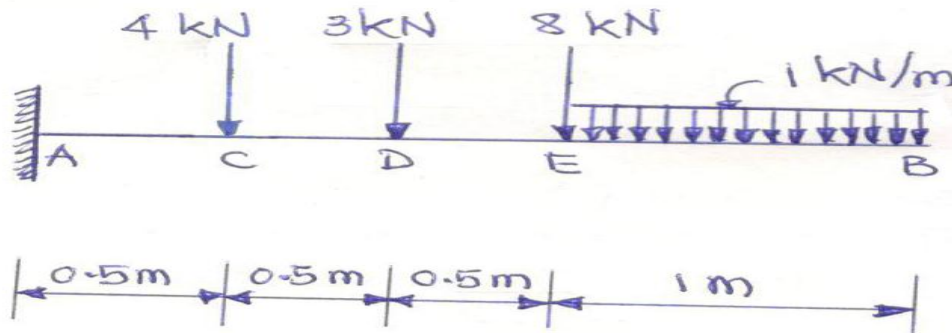Q.8   Draw shear force and bending moment diagrams for the following beam.   15

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SUBJECT CODE NO: E-716
FACULTY OF ENGINEERING AND TECHNOLOGY
F. Y. Arch Examination Nov/Dec 2017
H.A.-I
(Revised)

[Time: 3 hours] **[Max.Marks:100]**

Please check whether you have got the right question paper.
N.B
1. Q.No.1 is compulsory.
2. Solve any FIVE questions out of the remaining questions.
3. Draw neat sketches wherever necessary.

Q.1	Draw sketches only (ANY FOUR)	20
	a) Ladh Khan Temple, Aihole	
	b) Lingaraj Temple Bhuvaneshwar	
	c) Ashoka piller, Sarnath	
	d) Sun Temple, Konark	
	e) Shore Temple, Mahabalipuram	
Q.2	Draw neat plan and explain the Rock cut Architecture at Ajanta.	16
Q.3	Explain the typical Vedic village with the help of neat sketches.	16
Q.4	Explain the characteristics features of Dravidian Temples with suitable example. Draw neat sketches	16
Q.5	Draw neat sketches and explain importance of Gopurams with example of Meenakshi Temple at Madurai.	16
Q.6	Write an essay on Indus Valley Civilization, its culture, pattera of Settlement, Architecture etc.	16
Q.7	Write short notes on any FOUR.	16
	a) Symbolism of Stupa.	
	b) Chaitya Halls	
	c) Dilwara Temples at mount Abu.	
	d) Gupta Tamples (early shrines)	
	e) Rani Gumpha.	

2017

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SUBJECT CODE NO: E-720
FACULTY OF ENGINEERING AND TECHNOLOGY
F. Y. Arch Examination Nov/Dec 2017
A.B.C.M - I
(Revised)

[Time: 4 Hours] [Max.Marks:100]

Please check whether you have got the right question paper.

N.B
    i) Solve Section- A in drawing sheets & Section- B on answer book.
    ii) Solve <u>any Two questions</u> from <u>Section A</u> & <u>any Three from Section</u> B
    iii) Draw neat Sketches wherever necessary.

SECTION A

Q.1   A multipurpose hall having dimensions 5.0 mt × 12.0 mt. is in R.C.C frame structure.
The columns are placed at 3.0m C/c having size 230 × 480 mm.
The size of footing is 1.2 mt × 1.8mt.
The depth of foundation below G.L. is 1.0mt and plinth level is 0.9 mt above G.L.
All the walls are 230 mm in First class brick work.

    i)   Draw the plans of hall Showing all Position's of RCC columns and   15
        Openings. (Scale – 1:50)

    ii)   Show large scale details of a section of a column showing all the   20
        Reinforcement details. Show the plinth beam.

Q.2 a)   Draw three successive causes of right angle corner of a brick wall 1½ blc thick wall in English bond 15
Draw:-
- Detail Plan
- Elevation &
- Three successive Courses isometric view.

  b)   Draw Three successive courses of attached piler in 1½ blc thick in English bond.   20
Draw:-
    - Plan
    - Elevation &
    - Isometric view of three successive course(scale- 1:10)

Q.3   Draw Proper sketches of following (<u>any five</u>)   35

    i)   Section of External wall showing all components

    ii)   Steel lintel

    iii)   Two panneled door

    iv)   Horse shoe arch

    v)   Joinery detail between T.W.O. frame & style.

    vi)   Pad lock.

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SECTION – B

Q.4   Differentiate between the following (<u>any three</u>)   10

        i)   Flemish bond – English bond

        ii)   Stone masonry – brick masonry

        iii)   Clamp burning – kiln burning

        iv)   Natural seasoning – Artificial seasoning

Q.5   Explain in detail Bamboo as the building material & alternative to timber.   10

Q.6   Elaborate in detail the quarrying of stones   10

Q.7   Write short notes on (<u>any two</u>)   10
        i)   Lime putty

        ii)   Hollow concrete block

        iii)   Mud in building construction

SUBJECT CODE NO:E-721
FACULTY OF ENGINEERING AND TECHNOLOGY
F. Y. Arch Examination Nov/Dec 2017
A.B.C.I
(CBCS)

[Time:4 hours]   **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
i.   Solve any two questions from Sec. A and any two from Sec. B
ii. Answers to sec. A must be solved on drawing sheets only & answers to sec B can be solved on answer sheets.
iii. Assume suitable data wherever necessary.
iv. Figures to the right indicate full marks.

SECTION-A

Q.1   a) Draw neat sketches of any two of the following with dimensions.   08
      i)   Standard Brick
      ii) Quarter queen closer
      iii) King closer
      iv) Beveled closer.(scale 50 cms=1M)

  b) Draw plan, elevation and isometric view of a right angle junction of a $1\frac{1}{2}$ thick brick wall in English Bond showing at least 3 successive courses.(scale =1:10)
      i)   Plan   08
      ii) Elevation   06
      iii) Isometric view   08

Q.2   A room with internal dimensions of $4.00M \times 3.00M$. is a load breaking room with $1\frac{1}{2}$ thick brick wall in super-structure and roof of R.C.C. slab. You are required to show plan with foundation details upto plinth level only with uncoursed rubble stone masonry in plinth and foundation in cement mortar 1:6 prop. Hard Strata is available at 1.60 Mt below ground level and height of plinth is 750 mm. above ground level.
    1) Draw plan of the room showing all the offsets of footings (scale 1:25)   06
    2) Detail section of the foundation upto plinth level showing therein header stones, bonder stones   18
        etc.
    3) Draw isometric view.(scale 1:10)   06

Q.3   Draw neat sketches of any FOUR   30
      i)   Isolated brick column in Flemish Bond, $1\frac{1}{2}$ bk. Thick and 1.50 Height
      ii) Garden wall bond in brick masonry.
      iii) Different elements of a segmental Arch.
      iv) Typical section of a R.C.C. lintel with r.c.c. chajja showing general arrangement of reinforcement.
      v)   Typical Rat Trap Bond.

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SECTION- B

Q.4   Describe the principles for Brick masonry construction in cement mortar 1:6 prop. In superstructure.   10

Q.5   What are the reasons for soaking of bricks in water before using them on construction and why the   10
work is cured for 7 days?

Q.6   Describe the method of constructing a semi-circular arch in brick masonry.   10

SUBJECT CODE NO:- E-724
FACULTY OF ENGINEERING AND TECHNOLOGY
F. Y. Arch Examination Nov/Dec 2017
D.F.A.-I
(Revised)

[Time: Three Hours] **[Max.Marks:100]**

Please check whether you have got the right question paper.

N.B
    i) Question no.1 and Question no.2 are compulsory.
    ii) Out of remaining attempt any six questions.
    iii) Draw suitable sketches whenever required.

Q.1	What do you mean by visual perception and explain its principles with suitable examples?	20
Q.2	What is role of an Architect and Scope of Architecture?	20
Q.3	What is difference between art and architecture?	10
Q.4	Explain the principles of design with example from nature	10
Q.5	Explain rational and visual properties of forms?	10
Q.6	What are different kinds of spaces in architecture?	10
Q.7	What is golden ratio and where do you find in nature?	10
Q.8	What do you mean by seven lamps of architecture? Explain each lamp in detail with the help of examples from history.	10
Q.9	What is difference between technology & science?	10

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SUBJECT CODE NO: E-725
FACULTY OF ENGINEERING AND TECHNOLOGY
F. Y. Arch(CBCS) Examination Nov/Dec 2017
Building Material(CBCS)

[Time: Two Hours]   **[Max.Marks:40]**

Please check whether you have got the right question paper.
N.B   1) Solve any Four questions.
              2) Draw neat sketches to elaborate your answers.
              3) All questions carry equal marks.

Q.1   Elaborate the use of Bamboo as a building material.   10

Q.2   What are different classifications of sand? What do you understand by bulking of sand?   10

Q.3   Explain the process of preparation of clay for manufacturing of bricks. Describe the working of   10
          Pug Mill.

Q.4   What do you understand by quarrying of stone? What factors to be considered while selecting a   10
          good quarry.

Q.5   Describe the process of manufacturing of Fat Lime.   10

Q.6   Explain in detail defects in timber.   10

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SUBJECT CODE NO:- E-728
FACULTY OF ENGINEERING AND TECHNOLOGY
F. Y. Arch Examination Nov/Dec 2017
E.C.A.C.A.
(Revised)

[Time: Three hours]   [Max.Marks:100]

Please check whether you have got the right question paper.
N.B   1.) Answer any FIVE questions.
                        2.) Draw neat sketches wherever necessary.

Q.1   Explain the following terms in brief (Any Four)   20
            (a) Decastyle Temple
            (b) Architrave
            (c) Cornice
            (d) Frigidarium
            (e) Hypostyle Hall

Q.2   Draw sketches only (Any Four)   20
            (a) Tent house in Prehistoric period.
            (b) A typical Mastaba
            (c) Cleopatra's needle
            (d) Pyramid Section – Cheops.
            (e) Prehistoric tools & implements.

Q.3   Explain in detail with suitable sketches – column orders developed by Greeks   20

Q.4   Write a note on Architectural elements of a Typical Roman Town. Also draw neat sketches and   20
        explain any Two of them.

Q.5   Write an essay on Religion & funerary beliefs and practices in ancient Egypt. Also comment on its   20
        impact on Architecture.

Q.6   Draw neat sketches and explain importance of ziggurats in Mesopotamian Architecture.   20

Q.7   Compare with suitable examples the town planning concepts of Greeks and Romans.   20

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SUBJECT CODE NO: E-729
FACULTY OF ENGINEERING AND TECHNOLOGY
F. Y. Arch Examination Nov/Dec 2017
D.F.A.I
(CBCS)

[Time: 3 Hours]   [Max.Marks:80]

Please check whether you have got the right question paper.

N.B
1) Solve any two questions from section A.
2) Solve any four questions from section B.
3) Draw suitable sketches wherever required.

Section A

Q.1 What do you mean by visual perception and explain its principles with suitable examples?   20

Q.2 What do you mean by seven lamps of architecture? Explain each lamp in detail with the help of examples from history.   20

Q.3 What is role of an Architect and scope of Architecture?   20

Section B

Q.4 Explain the principles of design with example form nature.   10

Q.5 Explain rational and visual properties of forms?   10

Q.6 What is difference between art and architecture?   10

Q.7 What is golden ration and where do you find in nature?   10

Q.8 What are different types of spaces in architecture?   10

2017

SUBJECT CODE NO: E-732
FACULTY OF ENGINEERING AND TECHNOLOGY
F. Y. Arch Examination Nov/Dec 2017
E.S.
(Old)

[Time: 03:00 Hours]   [Max.Marks:100]

Please check whether you have got the right question paper.

N.B
1) Question No. 1 from Section A and Ques. No. 5 from Section B are compulsory.
2) Solve any two questions from remaining from each section.
3) Use sketches wherever necessary.
4) Answers to the two sections must be written separately.

Section A

Q.1 a) What is Natural ecosystem? Explain Aquatic ecosystem in detail.   11

b) Write short notes on following (any three):   15
   i)   Energy Flow
   ii)   Soil Erosion
   iii)   Deforestation
   iv)   Global Warming

Q.2 Describe in detail conservation of Biodiversity?   12

Q.3 Explain the concepts of Rain Water Harvesting in detail?   12

Q.4 Explain the importance of Food Chain and Food Web in maintaining the balance in environment.   12

Section B

Q.5 a) Enumerate the role of individual in preservation of environment?   11

b) Write short notes on following(any three):   15
   i)   Ozone Layer Depletion
   ii)   Producers
   iii)   Inverted Pyramid
   iv)   Water Pollution

Q.6 What do you mean by Environmental Protection Act?   12

Q.7 Write an essay on 'Disaster Management'?   12

Q.8 Explain in brief various Natural Resources.   12

2017

SUBJECT CODE NO:- E-733
FACULTY OF ENGINEERING AND TECHNOLOGY
F. Y. Arch (CBCS) Examination Nov/Dec 2017
E.C.A.C.A.(CBCS)

[Time: Three Hours]   **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
    i.   Attempt all Questions
    ii.   Figure to the right indicate full marks.

Q.1   Answer the following (Any TWO)   40

    i.   Write in detail about the development shelters, culture and lifestyle in prehistoric times.
    ii.   Describe with sketches the development of Pyramids from Mastabas. Draw neat sketch of
          the Royal Pyramid in section.
    iii. Explain in detail the Town Planning Principles of Greeks and also the important elements
          of Greek City Plans.

Q.2   Explain the following with appropriate sketches (any FOUR):   40

    i.   Roman column orders
    ii.   Sphinxes and Obelisks
    iii. Agora and stoa
    iv.   Temple of Amun Re at Karnak
    v.   Sumerian Civilization with example.

2017

SUBJECT CODE NO: E – 736
FACULTY OF ENGINEERING AND TECHNOLOGY
F. Y. Arch Examination Nov/Dec 2017
E.S.
(CBCS)

[Time: Three Hours]   [Max.Marks:80]

Please check whether you have got the right question paper.

N.B
i.   Question 1st from section 'A' and question 5th from section 'B' are compulsory. Each one of 10 marks.
ii.   Attempt any two questions from section 'A' and any two from section 'B'. Each one of 15 marks.
iii. Illustrate your answer wherever necessary.

Section A

Q.1   Multiple choice type questions. (Select the correct option to the following questions)   10
i)   The term ecology was introduced by.
   a) Haekel
   b) Odum
   c) Tansely
   d) Ramdco Mishra.

ii)   Soil conservation is a process in which
   a) Soil is aerated
   b) Soil erosion is allowed
   c) Soil is protected from loss
   d) None of the above

iii) Animals and plants are best protected in:
   a) 200s
   b) Botanical graders
   c) Sanctuaries
   d) National parks

Mark the statement true (T) or False (F).
iv)   Deforestation makes floods and drought more frequent.
v)   Earth summit was held in 1992 at Rio de Janeiro.

Q.2   What are the effects of deforestation?   15

Q.3   Describe the benefits of Biodiversity.   15

Q.4   Explain the concepts of Food Chain.   15

2017

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Section B

Q.5   Make the statement True (T) or False (F).   10
- i)   Kagiranga National Park is famous for Tiger.
- ii)   Earth summit was hold in 1992 at Rio – de – Janeiro.
- iii)   Gir is a matching sanctuary for Lion.
- iv)   Acid rain is caused by increase in the atmospheric concentration of SO_2 and NO_2.
- v)   The UV radiations in the atmosphere are absorbed by ozone.

Q.6   Describe the factors that affect human population growth rate.   15

Q.7   What is the significance of Rain Water Harvesting?   15

Q.8   Write notes on <u>any three</u> of the followings: 15
- a)   AIDS
- b)   Floods
- c)   Thermal pollution
- d)   Role of Information Technology in environment.
- e)   Women and Child Welfare.

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