

CONSTRUCTION MATERIAL
2nd Exam/Civil/4518/1418/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Fill in the blanks any nine of the following.

9x1=9

- a. The chief constituent of limestone is _____
- b. Cement does not _____ when wetted with water.
- c. Gypsum is added in cement to control _____ of cement.
- d. IS sieve no. _____ is used for fineness test.
- e. Annular rings represent _____ of tree.
- f. Decay in timber is due to _____
- g. Ferrous metals are those which contain _____ In large quantity.
- h. Permanent magnets can be made from _____
- i. Moisture present in parts of building is called _____
- j. A good filler provide _____ strength to plastics.
- k. Standard size of brick is _____
- l. Alumina imparts _____ to bricks.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Write short note on frog.
- ii. What are the advantages and disadvantages of light weight concrete?
- iii. Write advantages of plywood.
- iv. What are paver blocks? Write their advantages.
- v. Write short note on POP.
- vi. Describe properties and uses of aluminum.
- vii. What are the characteristics of granite?

SECTION-C

Q3. Attempt three questions.

3x7=21

- a. Differentiate between thermosetting plastic and thermoplastics.
- b. Differentiate between natural seasoning and kiln seasoning.
- c. Give composition of stainless steel. What are different uses of it?
- d. What are various properties of cement?
- e. Write properties and uses of Rapid Hardening Cement.

ELECTRICAL ENGINEERING MATERIALS
2nd Exam/Elect/6524/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Materials that do not allow electricity to pass through them are called ____.
- b. Copper and aluminum are good examples of ____.
- c. A material that has no electrical resistance is called a ____.
- d. A bundle conductor means using more than ____ wire per line.
- e. A magnet always has two poles, called North and ____.
- f. The property of resisting heat is called ____ resistance.
- g. Cotton, silk, and jute are examples of ____ insulating materials.
- h. Temperature rise increases the ____ of a conductor.
- i. The human body is a good conductor of electricity. (T/F)
- j. Metals are usually good conductors of heat and electricity. (T/F)
- k. Glass is a good conductor of electricity. (T/F)
- l. Silver is the conductor of electricity. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Explain the classification of materials into conductor and insulator based on atomic theory?
- ii. Define resistance and name the factors that affect it?
- iii. Define a superconductor. Give one example?
- iv. Write short notes on chemical resistance and weather ability of materials?
- v. Explain effect of overloading on the life of insulator?
- vi. Describe the properties and application of Nitrogen as insulating material?
- vii. Define hysteresis loop and draw its diagram also?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain the properties and applications of Manganin, Nichrome, and Tungsten?
- b. Explain the B-H curve and define coercive force, and residual magnetism?
- c. Explain dielectric strength and dielectric loss with suitable examples?
- d. Discuss the properties and applications of polyvinyl chloride (PVC) and mica?
- e. Explain thermosetting and thermoplastic plastics with examples?

FUNDAMENTALS OF ELECTRICAL ENGINEERING
2nd Exam/Elect/6523/1496/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Fill in the blanks any nine of the following.

9x1=9

- a. The rate at which work is done in an electric circuit is called _____.
- b. Voltage is measured by an instrument, known as _____.
- c. Loop is any closed path in the circuit formed by _____.
- d. Power factor is defined as the ratio of _____ to impedance of an a.c. circuit.
- e. In a single phase circuit, the power delivered is _____.
- f. D.C voltage has _____ polarity.
- g. The combination of cells is known as _____.
- h. The point through which a circuit element is connected to the circuit is called _____.
- i. Sine wave is negative in _____ and _____ quadrants.
- j. In an a.c. circuit containing pure inductance, current lags behind the applied voltage by _____.
- k. In 3-phase generator, there are three identical windings which are _____ electrical apart from each other.
- l. The e.m.f. of nickel-cadmium cell is _____ volt when charged.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. What are the laws of resistance?
- ii. What is Kirchhoff's current law?
- iii. Differentiate between A.C. and D.C.
- iv. Briefly explain the concept of inductive and capacitive reactance.
- v. Give some applications of lead acid batteries.
- vi. Give comparison between single and poly phase system.
- vii. What is star or wye connection?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Write some advantages of electrical energy over other types of energy.
- b. Explain the working principle of Wheatstone bridge.
- c. Explain the concept of phase and phase difference in case of alternating quantity.
- d. What is power factor? Give some disadvantages of low power factor.
- e. Explain the working principle of lead acid cell.

ARCHITECTURAL DESIGN-I
2nd Exam/AA/4823/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any ten of the following.

10x1=10

- a. Art and Science in blending are called Architecture. (T/F)
- b. Define 'Space'.
- c. Name any three angles of parking.
- d. The sill level of bedroom window is _____.
- e. Define "Elevation" in one sentence.
- f. Define interlocking of adjacent space in Architecture.
- g. Size of a patient bed in hospital is _____ X _____.
- h. Define 'Vista' in street context.
- i. The standard lintel height of residential doors is _____.
- j. The elements of design 'Plane' have two types i.e. _____ plane and _____ plane.
- k. The standard height of man and woman as per Indian environment is _____ and _____ feet.
- l. The two types of scales used in Architectural design standards are _____ scale and _____ scale.

SECTION-B

Q2. Attempt any two questions.

2x10=20

- i. Explain principals of design and explain any two.
- ii. Enlist any five and draw two types of street furniture.
- iii. Explain the need of 'Anthropometry' as course content for Architecture students.

SECTION-C

Q3. Attempt any one question.

1x20=20

- a. Draw a colour wheel and explain primary, secondary and tertiary colors giving examples,
- b. Draw the plan and section of a drawing room of size 4mX6m (12'X18' approximately) with its furniture layout.

BUILDING CONSTRUCTION-I
2nd Exam/AA/4822/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any ten of the following.

10x1=10

- The lower portion of a building below ground level is called ____.
- A joint provide to join inclined wooden member is called ____ joint.
- In stone masonry, finely dressed stones are used in ____ masonry.
- A brick laid with its longer face along the length of wall is called a ____.
- The depression provided in a door frame to receive the shutter is called ____.
- The portion of ground floor that prevent moisture from rising the ____.
- The joint used to connect two wooden members at right angle is called ____ joint.
- The standard size of a modular brick is ____ mm × ____ mm × ____ mm.
- A ____ Course is the topmost course of a brick wall
- The component placed below the window opening is called ____.
- The method of arranging brick in brick masonry is called ____.
- The tool used to check verticality of a wall is called ____.

SECTION-B

Q2. Attempt any two questions.

2x10=20

- Draw sketches of following joint. a) Mortise and Tenon joint b) square housed joint c) Lap joint
- Draw to different pattern of brick jallies design
- Draw an elevation of semi- circular arch for a span of 1.0 m and name the different part

SECTION-C

Q3. Attempt any one question

1x20=20

- Draw detail section of the following. i) flag stone flooring ii) Terrazzo floor over ground
- Draw a complete section of a building showing foundation, Plinth, DPC, Wall, Floor and Parapet

BUILDING MATERIALS-I
2nd Exam/AA/4821/1412/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Bricks are generally classified first class, second class, third class and _____.
- b. The main property of plastics that makes them useful in piping is that they are _____ resistant.
- c. Cement was first invented in the year _____ by Joseph Aspdin.
- d. _____ rocks are formed by the change in character of the pre-existing rocks.
- e. The cement of desired colour may be obtained by intimately mixing mineral _____ with ordinary cement.
- f. Lime and sand mixture with water used for plastering is called _____ mortar.
- g. The crushing strength of first class brick should not less than _____ N/sqmm
- h. Cement mortar is made by mixing cement, _____ and water.
- i. The most durable building material is _____
- j. The bulking of sand occurs due to the presence of _____
- k. Plastics are broadly classified into thermoplastics and _____.
- l. Cement should be stored in _____ place to avoid moisture.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. What are the main ingredients of good brick earth?
- ii. Write properties of good mortar.
- iii. Write four field test of cement.
- iv. Distinguish between thermoplastics and thermosetting plastics.
- v. Dressing of stone.
- vi. Mention four important characteristics of good building stone.
- vii. State four differences between lime mortar and cement mortar.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. What are the tests performed on bricks to check their quality.
- b. Discuss the various properties of good cement.
- c. Discuss the uses of plastics in modern construction industry.
- d. Describe different types of bricks according to their quality and uses.
- e. Describe different types of building stones used in construction industry.

ARCHITECTURAL DRAWING-II
2nd Exam/AA/4828/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any ten of the following.

10x1=10

- a. When a sphere is cut by a section plane, the true shape of the section is _____
- b. The projection obtained on a H.P of a cut object is called sectional _____
- c. The unfolding of all _____ of the object on a plane is called Development.
- d. In isometric view, the three principal axes of the object will be equally foreshortened. (T/F)
- e. In Isometric projection, dimension lines are drawn parallel to _____.
- f. The view actually appears to the observer when viewed from a fixed position is called _____ view.
- g. _____ point perspective is used for the representation of interiors of buildings.
- h. In perspective _____ plane is placed in between the object and the eye.
- i. The point in space where parallel lines meet is called _____
- j. Every line on the development must show the _____ length of the corresponding line on the surface which is developed.
- k. Full form of V.P and H.P.
- l. The point where the eye of the observer is located while viewing the object is called _____

SECTION-B

Q2. Attempt any two questions.

2x10=20

- i. A cube of 30mm side rests on the top of a cylindrical slab of 60mm diameter and 25mm thick. The axes of the solids are in same straight line. Draw an isometric projection of a solid.
- ii. Explain with the help of sketches: a) Picture plane b) Station point c) Vanishing point d) Ground line e) centre of vision
- iii. Draw the shade and shadow of a cylinder with diameter 40mm and height 60mm. Its base is resting on H.P and is 70mm away from V.P.

SECTION-C

Q3. Attempt any one questions.

1x20=20

- a. A right regular pentagonal pyramid base 30mm and 65mm long has its base on the horizontal plane and an edge of the base parallel to V.P. An auxillary inclined plane perpendicular to the H.P and inclined at 45° to the V.P cuts the solid at a distance of 12mm from the axis. Draw its sectional front view and true shape of the section.
- b. A Cylinder of 30 mm diameter and 35mm height of axis, is cut by a section plane inclined at 30° to H.P and passes 18mm from base along the axis. Draw the development of the truncated cylinder.

ARCHITECTURAL DRAWING-I
1st Exam/AA/3828/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any ten of the following.

10x1=10

- a. A grid consist of _____ and _____ lines.
- b. Line weight is affected by the _____ of the pencil.
- c. The two types of measurement systems are _____ and _____.
- d. The development of a cylinder's surface results in a _____.
- e. Length of the Scale = R.F x _____.
- f. The size of an A3 Sheet is _____.
- g. A drafting board provides a stable surface for drawing. (T/F)
- h. A set square helps in drawing specific angles such as 30°, 45° and 60°. (T/F)
- i. Architectural drawings do not need to follow standard scale. (T/F)
- j. An A3 sheet is larger than A1 sheet. (T/F)
- k. Hard pencils like 2H and 4H are used for dark shading. (T/F)
- l. A properly dimensioned drawing helps in minimizing errors during construction. (T/F)

SECTION-B

Attempt any two questions.

2x10=20

Q2: Draw Orthographic Projection of the following points:

- a. Point A, 25 mm in front of V.P and 40 mm above H.P.
- b. Point B, 40 mm behind V.P and 28 mm below H.P.

Q3: Write Single-Stroke Vertical Freehand Gothic Lettering of height 8mm of the following statements:

- a. "DRAWING IS THE LANGUAGE OF ARCHITECTS".
- b. "IMPORTANCE OF TECHNICAL EDUCATION IN INDIA"

Q4: Draw Plan and Front Elevation of a Square Pyramid having Base Edge of 30 mm and height 50 mm.

SECTION-C

Attempt any one questions.

1x20=20

Q.5: a) A straight line PQ 50 mm long makes an angle of 45° to the H.P. The end C is 15 mm above H.P. and 12 mm in front of V.P. Draw top view and front view of the line PQ.

b) A straight line CD 60 mm long makes an angle of 30° to the V.P. The end A is 20 mm in front of V.P and 15 mm above H.P. Draw the top view and front view of line CD.

Q.6: Develop the surface of a Pentagonal Pyramid having base edge 30 mm and axis 60 mm long.

S.B. Roll. No.....

FREE HAND SKETCHING
1st Exam/AA/3829/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Draw free hand sketch of any four of the following.

4x5=20

- a. A chair
- b. Fountain for park
- c. Car
- d. Teacher teaching on black board
- e. Old man with stick
- f. Trees

SECTION-B

Q2. Attempt any two questions.

2x15=30

- i. Make a composition for a wall of a five star hotel using geometrical shapes (size 30cm x 30cm). (Medium-Any)
- ii. Draw a village scene in any medium (size 30cm x 30cm).
- iii. Draw a Car parking place in any medium. (size 30cm x 20cm)

ENGINEERING & SPECIAL MATERIALS
2nd Exam/Chemical Engg. (P&P)/4401/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Give answer in one line any nine of the following.

9x1=9

- a. Which type of iron is the purest form of commercial iron?
- b. What is the monomer for LDPE?
- c. Shear strength is classified as which property of engineering material?
- d. ABS belongs to which type of polymer on the basis of its heating behaviour?
- e. Which polymer blend used in automotive bumpers?
- f. Which non-ferrous metal is widely used for electrical wiring?
- g. What is meant by a refractory material?
- h. Which property measures the material's ability to conduct heat?
- i. Magnesite brick belong to which type of refractory material?
- j. What property allows metals to be hammered into thin sheets?
- k. Which is the main alloying element in brass?
- l. What is the full form of PVC?

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. What is shear strength? Discuss its importance in brief?
- ii. Describe the applications of cast iron in brief?
- iii. Why fiber-reinforced plastics are widely used in various industrial applications?
- iv. Describe porosity and bulk density of refractory materials?
- v. What are corrosion inhibitors? Discuss in brief how they are useful in corrosion prevention?
- vi. Explain the main principles of composite reinforcement in brief?
- vii. Discuss the key points of difference between SS 304 and SS 316 in brief?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Describe the properties and uses of aluminum in detail?
- b. What is an alloy? Describe the different alloys of copper along with their applications?
- c. Discuss the classification of plastics into thermoplastics and thermosetting plastics with examples in detail?
- d. What is neutral refractory? Discuss industrial significance of neutral refractories in detail?
- e. Discuss glass transition temperature in polymers and its impact on polymer performance?

MECHANICAL OPERATIONS IN PROCESS INDUSTRIES
2nd Exam/Chemical Engg. (P&P)/4400/2409/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Give answer in one line any nine of the following.

9x1=9

- a. What is agitation?
- b. Define specific surface area of material.
- c. What is the other name for masticators?
- d. Which mechanical separator works on centrifugal action?
- e. What is the study of size and shape of solid particles called?
- f. Define batch sedimentation.
- g. What is particle size analysis?
- h. Which law is applicable to coarse crushing?
- i. What type of energy is mostly wasted during size reduction?
- j. Define residence time in mixing.
- k. What is mechanical separation?
- l. Which mixer is commonly used for powders?

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Describe the principle and working of gravity classifiers.
- ii. Discuss the importance of solid particle characterization in brief.
- iii. State and explain Rittinger's law of crushing in brief.
- iv. Discuss in brief how mixing of solids is different from mixing of low viscosity liquids.
- v. Explain the screening mechanical operation in brief.
- vi. Define and discuss propellers in brief.
- vii. Explain the role of filter aid in the filtration process.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Describe construction and working of filter press in detail with the help of a neat diagram?
- b. Discuss the various factors affecting particle size analysis accuracy in detail?
- c. What are ultrafine grinders? Describe construction and working of a Fluid Energy Mill with the help of a neat diagram?
- d. Explain principle, construction and working of ribbon blender with the help of a neat diagram?
- e. What are belt conveyors? Discuss construction of belt conveyor in detail with the help of a neat diagram?

INTRODUCTION TO CHEMICAL ENGG. (PLASTIC & POLYMER)
1st Exam/Chemical Engg. P&P/0118/2309/May'26
(For 2025 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Give answer in one line any nine of the following.

9x1=9

- a. What is the S.I. unit of specific gravity?
- b. Heat from the sun reaches to us by which mode of heat transfer?
- c. Define polymerization.
- d. Conduction is classified as which type of unit operation in chemical engineering?
- e. Which plastic processing technique is generally used to make water storage tanks?
- f. What is continuous process?
- g. Define specific volume.
- h. What is plastic?
- i. Oxidation involves mainly which type of changes?
- j. What are polymer additives?
- k. Define pressure.
- l. What is plastic processing technique?

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Discuss distillation as a mass transfer operation in brief.
- ii. Define and discuss polymers in brief?
- iii. Explain mass fraction and mole fraction?
- iv. Describe the radiation mode of heat transfer in brief.
- v. Explain the different types of polymerization in brief.
- vi. What is difference between density and specific gravity?
- vii. Describe the compounding of polymers in brief.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain chemical engineering and its importance in modern industries.
- b. What is of plastic processing techniques? Describe the different types of plastic processing techniques in detail?
- c. What is mass transfer? Describe its industrial applications in detail.
- d. Describe the importance of batch process in different types of chemical processing.
- e. What is a mould? Describe the different important parts of a mould in detail.

MECHANICAL OPERATIONS
2nd Exam/Chemical/5639/1439/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. In size reduction machines, solids generally break by _____ ways.
- b. The sphericity is independent of particle _____.
- c. Screens are specified by the _____ per linear inch.
- d. The operating speed of ball mill should be _____ than the critical speed.
- e. _____ are low speed machines.
- f. Unit operation deals with _____ changes.
- g. In a ball mill, reduction is done by _____.
- h. _____ is used in filtration to increase the porosity of the cake.
- i. Diatomaceous earth is _____.
- j. Capacity and _____ are closely related.
- k. Double cone mixer is used for _____ powders.
- l. Rotary drum filter is _____ filter.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Explain Bond's law and Rittinger's law for crushing.
- ii. Explain the necessity of size reduction in mechanical operations.
- iii. Differentiate between Crushing and Grinding.
- iv. Write down the characteristics of a filter medium.
- v. Describe in brief the various size reduction equipments used in industries with their principles.
- vi. Write a short note on filter aids in filtration.
- vii. Explain with the help of flow sheet closed circuit grinding.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain in detail with diagram, construction and working of Roll Crusher.
- b. Explain Filter Press in detail with the help of diagram.
- c. Describe with the help of diagram, construction and working of Ball mill.
- d. Write a note on Double cone mixer with neat diagram.
- e. Write a note on batch sedimentation.

INTRODUCTION TO CHEMICAL ENGINEERING
1st Exam/Chemical/5635/2331/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. MIT introduced the first basic course in _____.
- b. _____ Institute introduced the Chemical Engineering discipline in India.
- c. Unit operation is nothing but _____ changes.
- d. 1 atm is equal to _____ mmHg.
- e. _____ is defined as the ratio of density of a substance to the density of water.
- f. In a batch process, input and output streams are continuous. (T/F)
- g. _____ process is a combination of batch and continuous processes.
- h. A _____ fluid is one which has no viscosity.
- i. Specific weight is defined as weight per unit _____.
- j. Radiation heat transfer can take place in vacuum. (T/F)
- k. Mass transfer deals with movement of _____ due to concentration difference.
- l. Distillation is a physical separation process. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Define chemical engineering. Explain briefly the role of a chemical engineer in industries.
- ii. Define dimensions and units. Give examples.
- iii. Convert 70° F to °C, °K, °R.
- iv. Differentiate between unit operations and unit processes with one example each.
- v. Explain Mass fraction and Mole fraction with examples.
- vi. Distinguish between fluid statics and fluid dynamics with examples.
- vii. Define density and specific gravity.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Discuss the scope and Career opportunities in chemical engineering with respect to different Chemical Industries.
- b. Explain the concepts of batch, semi-batch, and continuous processes with neat sketches.
- c. Explain conduction, convection, and radiation modes of heat transfer with suitable examples from industry.
- d. Define mass transfer. Classify various mass transfer operations and explain any two applications in industry.
- e. Write short note (any two)
 - i) Industrial applications of Chemical Engineering
 - ii) Various unit operations in Chemical engineering
 - iii) Properties of fluids (Viscosity and Specific volume)

ENGLISH AND COMMUNICATION SKILL-II
2nd Exam/Common/1400/May'26
(For 2025 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. a) Read the passage given below and answer the questions.

Baisakhi, also known as Vaisakhi, is one of the main harvest festivals celebrated in India. Like Kerala has its Onam, Tamil Nadu has its Pongal and Maharashtra has its GudiPadwa, Punjab and most of North India celebrates Baisakhi with great joy. Taking place in April, this festival marks the arrival of the harvest season and is a joyous occasion for farmers and other communities alike. It heralds the end of the winter crops and the beginning of the new agricultural cycle.

The festival is celebrated with enthusiasm and a sense of community spirit. Traditional activities include vibrant Bhangra and Gidha dances, where people dress in bright, festive attire and perform energetic dance moves to the rhythm of traditional drums. These dances are not only a form of celebration but also a way to express gratitude for the bountiful harvest.

Families gather together to enjoy a special meal that often includes seasonal dishes made from fresh produce. The festival is also marked by the preparation of traditional sweets and snacks, adding to the festive cheer. As people visit local fairs and markets, the atmosphere is filled with the aroma of delicious food and the sound of joyous celebrations.

In addition to its agricultural significance, Baisakhi is a time for reflecting on the cultural heritage and traditions of Punjab. It serves as a reminder of the close bond between the land and its people, celebrating the fruits of hard work and dedication. The festive also provides an opportunity for people to come together, strengthening their sense of community and sharing the happiness of a successful harvest.

Baisakhi is a vibrant and meaningful festive that highlights the rich cultural traditions of Punjab and the importance of celebrating the changing seasons.

3x1=3

- i. When is Baisakhi celebrated?
 a) August b) June c) December d) April
- ii. What type of food is commonly prepared on Baisakhi?
 a) Traditional sweets and snacks
 b) Modern sweet and snacks c) Continental food d) South Indian food
- iii. What kind of attire do people wear during Baisakhi dances?
 a) Bright, festive attire b) Casual wear c) Formal wear d) Uniform

b) Answer the following question in one or two sentences.**2x2=4**

- a. How does Baisakhi in still a sense of community among people?
- b. What is the main purpose of Baisakhi in relation to agriculture?

Q2. a) Read the passage and answer the questions.**6x1=6**

The Earth is the third planet from the Sun and the only known planet to support life. It has a diameter of approximately 12,742 kilometers and is the fifth largest planet in the solar system. The Earth is a rocky planet with a solid outer crust and a molten inner core. Its atmosphere is composed of nitrogen, oxygen, and trace amounts of other gases.

The Earth's rotation on its axis causes day and night, while its orbit around the Sun causes the seasons. The Earth's axial tilt is responsible for the variation in sunlight received by different parts of the planet throughout the year, resulting in the seasons. The Earth's magnetic field, created by the motion of molten iron in its core, helps to protect the planet from harmful solar radiation.

The Earth is also unique in its abundance of water, which covers approximately 71% of its surface. This water is essential for life and plays a crucial role in regulating the planet's temperature and climate.

- i. The water is essential for _____ a) fields b) crops c) life d) humans
- ii. The earth has a diameter of _____ a) 12,742 kms b) 14,742kms c) 15,742 kms d) 18,742 kms
- iii. The earth is the _____ planet from the sun. a) First b) Second c) Third d) Fourth

- iv. The earth is a _____ planet. a) Rocky b) Sandy c) Plains d) Mountains
v. The Earth is the _____ largest planet in the solar system. a) First b) Fifth c) Seventh d) Ninth
vi. The earth's surface has _____ amount of water a) 81% b) 71% c) 91% d) 61%

b) Answer in one line.

2x2=4

- a. What causes the seasons on earth?
b. What is the earth's magnetic field and why is it important?

SECTION-B

Use of Language

Q3. Do as directed.

10x1=10

- i. I plan to visit my grandmother (underline infinitive)
ii. Dancing is my favourite part of any celebration (underline Gerund)
iii. She (study) English right now (Change into present continuous tense)
iv. They (play) football when it started to rain. (Change into past continuous tense)
v. He (work) on my project tomorrow afternoon (Change into future continuous tense)
vi. The park is _____ the center of city (Fill with preposition of place)
vii. The exam is _____ 2 pm (Fill with preposition of time)
viii. The car drove _____ the tunnel (Fill with preposition of direction)
ix. There _____ (is/ are) many different cultures in this city (Use correct verb form)
x. The red car was parked in the drive way (Identify modifier)

Q4. Vocabulary

a) Fill in the blanks with correct form from the box

6x1=6

anxious, concentrate, crucial

- i. Eating a balance diet can help you _____ better during exams.
ii. The student felt _____ about the upcoming test.
iii. It is _____ to get enough sleep before an exam.

b) Chose the correct phrase to complete the sentence

- iv. The village is located _____ (in the heart of the city/ in the middle of the city)
v. We got lost _____ (on the map/ at the crossroads)
vi. I live _____ (next door/ in the city center)

SECTION-C

Q5. a) Write a letter complaining about a traffic signal light malfunctioning.

OR

7

Write a letter to the Editor highlighting a common problem of overuse of mobile phones and its consequences on health and well being.

b) Write a paragraph in about 125-150 words on any one of the topics using the hints given.

5

Newspapers

- i. Newspapers information General knowledge Mirror of nation
written mode knowledge of job new recipes Source of
entertainment Circulated widely Improves reading skills.

Fashion

- ii. Fashion way to express through clothing reflects personality different
region Different fashion Influenced by designers celebrities and society
trends in boys and girls self expression and individuality.

Q6. Your college is a celebrating its Silver Jubilee year. As the Student President invite a celebrity to make this event a grand success.

5

OR

Write an email to your friend highlighting the importance of health and fitness in life.

APPLIED PHYSICS-II
2nd Exam/Common/9345/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- i. OWU is the unit of _____
- ii. Wavelength of a Laser beam of a Ruby Laser is _____
- iii. Magnifying power m of a compound microscope is
 - a) $m = m_o + m_e$ b) $m = m_o - m_e$ c) $m = m_o \times m_e$ d) m_o / m_e
- iv. Inside a hollow spherical conductor the electric potential is zero: (True or False)
- v. Choose the sound frequency audible to human beings
 - a) 1 Hz b) 10 Hz c) 1000 Hz d) 100000 Hz
- vi. What should be the height of the looking glass to get full length view of ourselves?
- vii. A current of 3.2 A is flowing in a wire. How many electrons are moving through the wire per second?
- viii. The formula to calculate the magnifying power of a simple microscope is _____
- ix. Farad is the unit of Electric field. (T/F)
- x. Electric flux is defined as _____
- xi. A magnetic field exerts no force on a stream of electrons. (T/F)
- xii. Magnetic lines of force cannot intersect each other. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- a. Briefly explain the properties of LASER light.
- b. Define Electric Lines of Force. Also explain their properties.
- c. What is Total Internal Reflection? What are the conditions to obtain it.
- d. State Kirchoff's laws for DC ckts using suitable diagrams.
- e. Why the oil tankers usually have metallic ropes touching the ground.
- f. What do you mean by SONAR? Explain how it is used to detect submerged objects under sea.
- g. Three resistors of 20 Ω , 15 Ω and 15 Ω are connected in series and a voltage of 100 Volt is applied to the combination. Calculate the net resistance, current and voltage in each resistor.

SECTION-C

Attempt any three questions.

3x7=21

- Q3.** a) Explain the principle, construction and working of a Ruby LASER. 5
 b) Find the total charge on a body due to 10^{12} electrons attached to it. 2
- Q4.** a) What are the sign conventions for lenses? 3
 b) State and explain Wheat Stone bridge Principle. 4
- Q5.** a) What is a shunt in a CKT and why is it used in a CKT. 3
 b) Explain the factors affecting the capacitance of a capacitor. 4
- Q6.** a) Find the wavelength of a sound wave of frequency 3300 Hz when the velocity of sound is 330 m/s. 4
 b) What are dielectrics? Explain its functions. 3
- Q7.** a) Marching troops are asked to break steps while crossing a suspension bridge. Explain Why? 3
 b) Explain the construction and working of an Astronomical Telescope set at infinity. Write the formula to calculate its magnifying power. 4

APPLIED MATHEMATICS-II
2nd Exam/Common/0106/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- i. $\int \frac{3}{\sin^2 x} dx =$ a) $-3\cot x$ b) $3\cot x$ c) $\frac{\cot x}{3}$ d) $\frac{-\cot x}{3}$
- ii. If the slope of normal to the curve is infinity, then the slope of tangent is a) 1 b) ∞ c) -1 d) 0
- iii. Order of differential equation $(y''')^2 + 2y'' + 3y = x$ is a) 1 b) 2 c) 3 d) 4
- iv. Derivative of x^6 w.r.t. x^3 is a) $6x^6$ b) $-2x^3$ c) $-6x^6$ d) $2x^3$
- v. The rate of change of displacement is called _____ of a moving point.
- vi. The derivative of nth order is written as _____.
- vii. $\frac{d(10^x)}{dx}$ is equal to _____.
- viii. If $f(x)$ is even, then $\int_{-a}^a f(x) dx$ is equal to _____.
- ix. $\lim_{\theta \rightarrow 0} \frac{\sin \theta^\circ}{\theta}$ is equal to 1 (T/F)
- x. $\int \frac{g'(x)}{g(x)} dx$ is equal to $\log |g(x)|$ (T/F)
- xi. $\int \log x dx = \frac{1}{x}$ (T/F)
- xii. $\int \frac{1}{a^2 - x^2} = \frac{1}{a} \tan^{-1} \frac{x}{a} + C$ (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- a. Differentiate w.r.t. $x \log \sqrt{\frac{1-\cos x}{1+\cos x}}$
- b. Evaluate $\int x \tan^{-1} x dx$
- c. If $x = a(\theta + \sin \theta)$ and $y = (1 - \cos \theta)$ find $\frac{dy}{dx}$
- d. Evaluate $\lim_{x \rightarrow 2} \frac{x^8 - 2^8}{x - 2}$
- e. Evaluate $\int \sqrt{1 - \sin 2x} dx$
- f. Find the equation of the normal to the curve, $y = 6x^2 - 5x + 3$ at (1,4)
- g. Find the area bounded by the curve $y = \log x$ between the x-axis and the ordinates $x=2$ and $x=3$.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- i. Show that $\int_0^{\pi/4} \log(1 + \tan \theta) d\theta = \frac{\pi}{8} \log 2$
- ii. Solve the differential equation:
 $\frac{dy}{dx} = e^{3x-3y} + x^2 e^{-3y}$
- iii. Find the minimum and maximum values of the function
 $2x^3 - 15x^2 + 36x + 10$
- iv. If $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ find $\frac{d^2y}{dx^2}$
- v. Evaluate $\int \frac{dx}{1+3\sin^2 x}$

APPLIED MECHANICS
2nd Exam/Common/9346/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

Note: Use of Scientific Calculator (Non - Programmable) is allowed.

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Equilibrant force is equal & opposite to the _____ force.
- b. Define moment of a force.
- c. Define "Statics" branch of applied mechanics.
- d. C.G is term used for _____.
- e. Define Mechanical advantage of simple machine.
- f. Define ideal machine.
- g. The scalar quantity is one that has _____ only
- h. Define Varignon's theorem.
- i. A bowling ball on a bowling lane is example of what type of friction.
- j. What is the C.G of solid cylinder of radius "R" & height "h"?
- k. Define vector quantity.
- l. Define dynamic friction.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Write the general conditions of equilibrium of bodies under coplanar forces.
- ii. Write a short note on single winch crab.
- iii. Write a short note on Newton's laws of motion
- iv. Write a short note on angle of repose & cone of friction **(2+2)**
- v. Define couple, what are its effects. **(2+2)**
- vi. Write down the position of centre of gravity of following regular solid bodies. **(1+1+1+1)**
a) Cylinder (From base along axis) b) Sphere c) Hemisphere (From base, along axis)
d) Cone (From Base along axis)
- vii. Define the following
a) Centre of gravity b) Centroidal axes c) Axis of symmetry d) Centroid

SECTION-C

Attempt three questions.

3x7=21

Q3. Two forces of magnitude 200N & 300N are acting at a point. The angle between them is 130 degree. Determine the magnitude & direction of resultant using law of forces concept if both forces are to be pulls.

Q4. With the machine for which velocity ratio is 45, effort of 500 N & 600 N are required to raise a load of 5000 N & 7000 N respectively. Determine

- i. Law of machine **3**
- ii. Probable effort to raise a load of 5000 N **1**
- iii. Mechanical advantage **1**
- iv. Efficiency **1**
- v. Effort lost in friction **1**

Q5. A body weighing 1000 N is lying on a rough horizontal plane for which $\mu = 0.75$. Determine:

- i. Horizontal force required to move it **2**
- ii. Normal Reaction **2**
- iii. Limiting force of friction **2**
- iv. Resultant reaction **1**

S.B. Roll. No.....

Q6. In a single purchase crab winch, the number of teeth on pinion is 25 and that on the spur wheel 100. Radii of the drum and handle are 50 mm and 300 mm respectively. Find the efficiency of the machine and the effect of friction, if an effort of 20 N can lift a load of 300.

3+4

Q7. Explain the following terms.

- i. Free body diagram
- ii. Lami's theorem
- iii. Coplanar & non coplanar forces

2

3

2

Previous QP May 2026

ENVIRONMENTAL STUDIES
3rd Exam/Civil (PTD)/MLT/IDD/0109/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Full form of BOD is _____.
- b. Organisms that make food by photosynthesis are called _____.
- c. Ocean cover more than _____ of earth's surface.
- d. _____ waste is waste that does not breakdown into natural components and exists in environment for long time.
- e. Onsite Handling is the very first step in waste management. (T/F)
- f. Non living factors in environment are called Abiotic factors. (T/F)
- g. The portion of earth that supports life is called Biosphere. (T/F)
- h. Industrial waste is hazardous as it may contain toxic substances. (T/F)
- i. Define the term ecology.
- j. Name any two acts for controlling pollution.
- k. Expand EIA.
- l. Define global warming.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Write the various causes of Water pollution.
- ii. What is the role and function of State Pollution Control Board?
- iii. What are 3R's in Solid Waste Management?
- iv. What is Desertification?
- v. What are the various effects of Acid Rain?
- vi. Define Ecosystem and environment.
- vii. Write a short note on Water Act of 1974.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. What is water cycle? State and explain the various steps involved in water cycle.
- b. What is air pollution? Explain its causes, effects and how it can be prevented?
- c. Explain the role of Solar Energy, wind Energy in environmental protection.
- d. Define environmental impact assessment? Write its advantages and disadvantages.
- e. Write short note on any two.
 - i) Air Act of 1981.
 - ii) E-waste Management.
 - iii) Rain Water harvesting.

ENVIRONMENTAL STUDIES
1st Exam/ECE-II/CSE/IT/MOP/T&D/MECHATRONIC/0109/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- i. Chemical backbone of all life on earth is
 - a) Carbon
 - b) Nitrogen
 - c) Argon
 - d) Hydrogen
- ii. The Biosphere is also known as
 - a) Atmosphere
 - b) Ecosphere
 - c) Lithosphere
 - d) Hydrosphere
- iii. The process of conversion of fertile lands into deserts is
 - a) Acid Rain
 - b) Desertification
 - c) Famine
 - d) Draught
- iv. The alteration of different crops on the same plot of land over different growing seasons is known as
 - a) Terracing
 - b) Crop Rotation
 - c) Contour Building
 - d) Windbreak
- v. VOC stands for _____.
- vi. An Acidic substance has pH value less than _____.
- vii. AQI stands for _____.
- viii. Methane is a Greenhouse gas. (T/F)
- ix. Wildlife Protection Act was made in 1972. (T/F)
- x. Oceans cover more than 90% of earth's surface. (T/F)
- xi. Bio Diesel is an alternative for diesel fuel. (T/F)
- xii. Solar energy is Non-Renewable source of energy. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- a. Write a short not on Tidal energy.
- b. What are renewable sources of energy? Give examples.
- c. What is Acid rain? Give causes.
- d. Write a short note on Soil Pollution.
- e. What are the functions of State Pollution Control Board?
- f. What is Energy Management? State its objectives.
- g. What is importance of Ecology?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- i. What is Deforestation? State its causes in detail.
- ii. Explain Noise Pollution with its effects.
- iii. Explain Global Warming with its causes and effects.
- iv. Discuss the method of Solid Waste Management in detail.
- v. What is Sustainable Development? State its objectives.

APPLIED MATHEMATICS-I
1st Exam/Common/0101/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A**Q1. Do as directed any nine of the following.****9x1=9**

- i. What is the value of i^2 ? a) -1 b) -1/2 c) 1 d) 0
- ii. Conjugate of $2 + 3i$ is a) $-2-3i$ b) $2-3i$ c) $-2+3i$ d) $3-2i$
- iii. The degree of polynomial $x^2 + 2x + 4$ is a) 1 b) 2 c) 3 d) 4
- iv. What is the value of $1!$? a) 1 b) 0 c) -1 d) Not defined
- v. Which trigonometric identity can be used to define slope? a) $\sin \theta$ b) $\tan \theta$ c) $\cos \theta$ d) $\sec$
- vi. Distance between (0,0) and (3,4) is a) 4 b) 3 c) 5 d) 6
- vii. If two lines are parallel to each other then their slopes are equal. (T/F)
- viii. The angle of elevation is for the object which is at a level higher than that of observer. (T/F)
- ix. If $C(11, x) = C(11, y)$ and x is different from y , then $x + y = 12$. (T/F)
- x. Value of $\sin$ lies between -1 and 1. (T/F)
- xi. Factorial of negative numbers is defined. (T/F)
- xii. Value of trigonometric identity $(\sin \theta)^2 + (\cos \theta)^2$ is 1. (T/F)

SECTION-B**Q2. Attempt any five questions.****5x4=20**

- a. Find modulus and amplitude of the complex number $\sqrt{3} + i$.
- b. Find x if $\frac{1}{8!} + \frac{1}{9!} = \frac{x}{10!}$.
- c. If $A = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$, What is the value of $A^2 + 2A$.
- d. Find the equation of straight line which passes through (4,5) and makes angle 45° with x-axis.
- e. Find the co-efficient of x^8 in the expansion of $(x - \frac{1}{x})^{10}$.
- f. Find the determinant of $\begin{vmatrix} 7 & -12 & 5 \\ 3 & 8 & -2 \\ 10 & -7 & 4 \end{vmatrix}$.
- g. Find the value of k in order that the point $(k, 1)$, (5,5) and (10,7) are co-linear.

SECTION-C**Q3. Attempt any three questions.****3x7=21**

- i. Solve the following problem.
 Minimize and Maximize $Z = 7x + 8y$
 Subject to $x + 2y \leq 120$, $x + y \geq 60$, $x - y \geq 0$, $x, y \geq 0$.
- ii. Find the equation of circle passing through (2,-6), (6,4), (-3,1).
- iii. A boy observes the angle of elevation to the top of a wall to be 45° and after walking directly 100 meters away from the wall, the angle of elevation is 30° . Find the height of the wall and distance between wall and first position of the boy.
- iv. Solve the system of equations by Cramer's rule.
 $x + 4y + 3z = 2$, $2x - 6y + 6z = -3$, $5x - 2y + 3z = -5$
- v. If x is so small that its squares and higher powers may be neglected, then show that

$$\frac{\sqrt{1-3x} + (1-x)^{\frac{5}{3}}}{(4-x)^{1/2}} \cong 1 - \frac{35}{24}x$$

ENGINEERING DRAWING-I
1st Exam/Common/0104/2340/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any ten of the following.

10x1=10

- a. Length of an arrowhead is _____ times the thickness of the line.
- b. "R" written before a dimension denotes a _____.
- c. A hidden object is shown by _____ line.
- d. A trimmed drawing sheet size 297 mm x 420 mm is _____.
- e. Draw the symbol of Glass.
- f. Section lines are generally drawn at an angle of _____ to the horizontal.
- g. The ratio of length on drawing and actual object length is called _____.
- h. Top view of an object is projected on _____ plane.
- i. In 7:4 ratio lettering the height is taken as _____ units.
- j. In isometric view horizontal lines are drawn at an angle of _____.
- k. Projection line is a dotted line. (True/False)
- l. Isometric view of a circle is an ellipse. (True/False)

SECTION-B

Q2. Attempt any two questions.

2x10=20

- i. a) Draw the following in single stroke vertical capital letters in 7:4. Take letter height = 35mm. "TECHNICAL EDUCATION"
b) Differentiate between 1st angle projection and 3rd angle projection.
- ii. a) Explain the aligned and unidirectional system of dimensioning with diagram.
- iii. b) Draw the front view and top view of a line 40mm long which is parallel to HP. Line is 25mm above HP and inclined at 30° to the VP. Nearest end of line is 15 mm in front of VP.
- iv. a) Draw the conventional representation of various types of lines.
b) Construct a diagonal scale to read metres, decimetres and centimetres. RF= 1/50, long enough to measure upto 5 meters. Show on it a distance of 3 metres 4 decimetres and 2 centimetres.

SECTION-C

Q3. Attempt any one question.

1x20=20

- a. Figure 1 shows a casting or isometric view of a V block. Draw its front view, top view and side view.
- b. Figure 2 shows the pictorial view of an object. Draw the following:
 - i) Sectional front view along x-x
 - ii) Top view
 - iii) Side view.

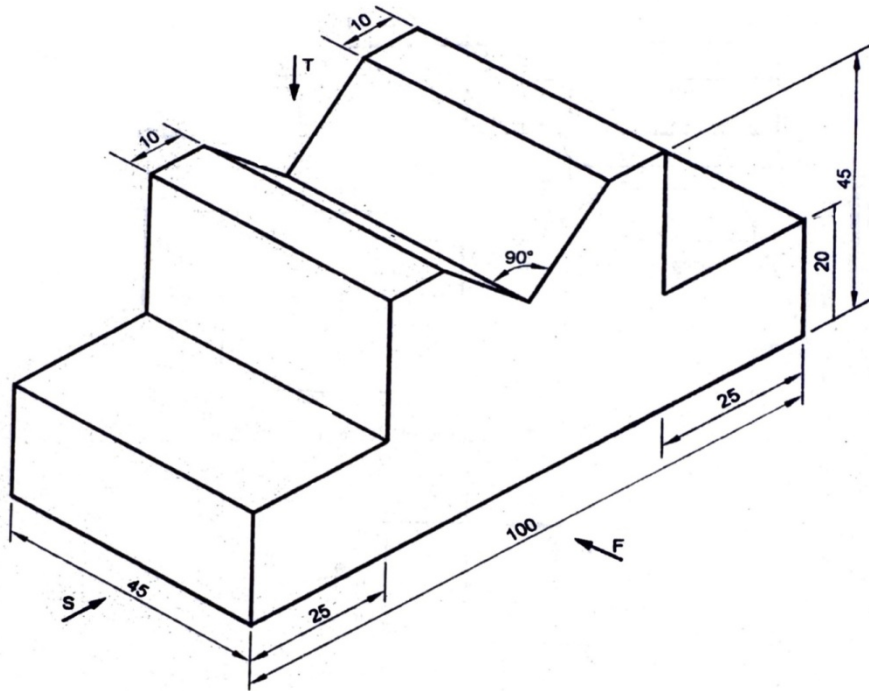


Figure no. 1

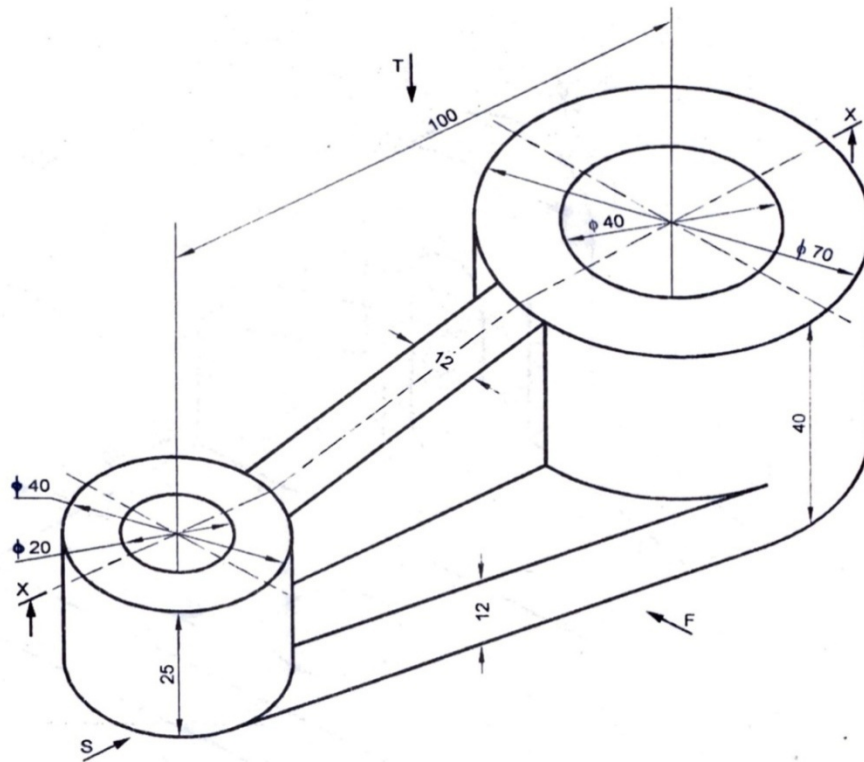


Figure no. 2

ENGLISH & COMMUNICATION SKILLS-I
1st Exam/Common/1200/May'26
(For 2025 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Read the passage given below and answer the questions.

I am Milkha Singh, also known as the "Flying Sikh". I was born on November 20, 1929 in Govindpura, Punjab. My childhood was tough. I lost my parents during the partition of India in 1947. Despite facing many challenges, I became a famous runner. In 1958, I won gold medals in the 200 m and 400 m races at the Commonwealth Games. I ended up getting the fourth position in the 400 m race at the 1960 Rome Olympics. My story inspires many people to work hard and never give up on their dreams.

- a. Who is famously known as the "Flying Sikh"? 1
 i) Milkha Singh ii) Harmanpreet Kaur iii) Sachin Tendulkar iv) Virat Kohli
- b. Where was Milkha Singh born? 1
 i) Moga, Punjab, India ii) Govindpura, Punjab iii) Delhi, India iv) Mumbai, Maharashtra, India
- c. In which event did Milkha Singh win gold medals at the Commonwealth Games in 1958? 1
 i) 100 m and 200 m races ii) 200 m and 400 m races
 iii) 400 m and 800 m races iv) Long jump and high jump
- d. Answer the following questions in one or two sentences: 2x2=4
 i) Which gold medals did Milkha Singh win in 1958? ii) When was Milkha Singh born?

Q2. Read the passage and answer the questions.

Rohit is a student of class eleven. He lives with his family in a small town. Every morning he wakes up early and goes for a walk. After that he gets ready for school. Rohit is very hardworking and always completes his homework on time. In his free time he likes reading story books and playing cricket with his friends. His teachers like him very much because he is polite and sincere.

- i. In which class does Rohit study? 1
 a) Class Nine b) Class Ten c) Class Eleven d) Class Twelve
- ii. Where does Rohit live? 1
 a) In big city b) In small town c) In village d) In hostel
- iii. What does Rohit do every morning? 1
 a) watches TV b) goes for a walk c) plays cricket d) reads books
- iv. Rohit is very _____. 1
 a) lazy b) careless c) hardworking d) rude
- v. Rohit completes his homework _____. 1
- vi. Rohit likes to read _____. 1
- vii. Answer the following in one or two sentences: 2x2=4
 a) Why do teachers like Rohit? b) Which game does Rohit like to play?

SECTION-B

Use of Language**Q3. Do as directed.**

10x1=10

- a. I usually wake up ____ 7 o'clock in the morning. (at/on)
- b. She ____ her homework before dinner. (finish/finishing)
- c. We went to ____ zoo yesterday. (a/the)
- d. He always finishes his homework ____ dinner. (before/after)
- e. She walked slowly to the park enjoying the warm sunshine. (Identify noun and verb)
- f. Ravi ____ up early in the morning. (wake/wakes)

- g. She is ___ doctor. (a/an)
h. He is ___ engineer. (a/an)
i. There are ___ bananas on the table. (much/many)
j. Do you have ___ tomatoes in the garden? (any/much)

Q4. Vocabulary.

6x1=6

a) Use any words from the box to fill in the blanks:

Heat, Squeeze, Cut

- i. ___ the oil in a saucepan and add mustard seeds.
ii. ___ half a lemon over the simmering curry for extra flavour.
iii. ___ the onions into thin slices.

b) Fill in the blanks with appropriate adjectives from the brackets.

- iv. The road is very ___ at night. (dark/bright)
v. She wore a ___ dress for the party. (dirty/beautiful)
vi. The classroom is ___ and tidy. (clean/noisy)

SECTION-C

Q5. Write a paragraph in about 125–150 words on any one of the topics using the hints given. 7 Morning Walk

- a) I ___ for a walk ___ fresh air ___ healthy note. The streets were ___ chirping of birds. ___ energized by cool atmosphere. ___ Sunrise made me realize ___ maintaining good health.

OR

My College Library

Library is a place _____. Students use _____ study. Libraries develop _____. They provide _____ environment for learning. Many libraries offer _____ internet access. Reference books _____. A visit to _____ learning enjoyable and effective.

Q6. Complete the diary entry by filling in the blanks.

5

Date:

Day:

Time:

Today _____ happy day for me. I _____ picnic with _____. We went to _____ in the morning. We played _____ and _____ there. We also ate _____ and _____ together. I felt _____ and _____. It was very _____ day for me.

Q7. Write 5 sentences on any topic:

5

Diwali / Baisakhi **OR** My hobby

APPLIED CHEMISTRY
2nd Exam/CSE/IT/0103/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

Note: Calculators are allowed.

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- i. Chemical symbol of Lithium is: a) LE b) Li c) L d) none of these.
- ii. Number of neutrons in $^{40}\text{Ca}_{20}$ is: a) 40 b) 60 c) 20 d) none of these.
- iii. Electronic configuration of Scandium is: a) $[\text{Ar}] 3d^1 4s^2$ b) $[\text{Ar}] 3d^0 4s^2$ c) $[\text{Ar}] 3d^3 4s^0$ d) None of these.
- iv. A concentration of 1mg/L is equal to: a) 0.10ppm b) 10ppm c) 1ppm d) none of these.
- v. pH of a basic solution is: a) more than 7 b) less than 7 c) equal to 7 d) All of these.
- vi. Loss of electrons by a species is known as:
a) Reduction b) Oxidation c) Redox reaction d) All of the above.
- vii. The following is/ are caused due to the hardness of the boiler feed water:
a) Caustic embrittlement b) Corrosion c) Priming d) All of the above.
- viii. Ethene is the monomer of polythene. (T/F)
- ix. The molality is not affected by the change in temperature. (T/F)
- x. We can use a lubricant to reduce friction between the machine parts. (T/F)
- xi. High carbon residue is desirable for a lubricant. (T/F)
- xii. A good fuel must have a low calorific value. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- a. Write the chemical formula of Calcium carbonate, Zinc chloride, Aluminium nitride, Potassium carbonate and Ammonium phosphate.
- b. Define: flash point, fire point, cloud point and pour point of a lubricant.
- c. Define Isotopes and Isobars and give examples of each.
- d. Enlist the desired characteristics of drinking water.
- e. Define pH. What is the pH of a 10^{-2}M HCl solution?
- f. Define Solution, Solute and Solvent. Explain these terms with an example.
- g. Give any four applications of polymers in industry and daily life.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- i. Give any seven characteristics of a good fuel.
- ii. Discuss in detail Bohr's model of the atom.
- iii. Explain the formation of ionic and covalent bonds with one example of each.
- iv. Define electrolysis. Give a detailed account of Faraday's laws of electrolysis.
- v. Discuss in detail the ion exchange process to remove the permanent hardness of water.

APPLIED CHEMISTRY
1st Exam/Common/0103/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. The chemical formula of silver nitrate is _____.
- b. Positively charged ions are called _____.
- c. The shape of p-orbital is _____.
- d. _____ have same atomic number but different mass number.
- e. Oxidation involves _____ of electron.
- f. Temporary hardness can be removed from water by _____.
- g. The monomer of PVC is _____.
- h. Sigma bond is weaker than pi bond. (T/F)
- i. Blood is a buffer solution. (T/F)
- j. Reduction involves the gain of electrons. (T/F)
- k. Hard water gives lather with soap. (T/F)
- l. All macromolecules are polymer. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Define solute, solvent and solution with examples.
- ii. Differentiate between temporary and permanent hardness of water.
- iii. What are the characteristics of a good fuel?
- iv. Differentiate between sigma and pi bonds.
- v. Define primary and secondary cells with examples.
- vi. Write chemical formulae of the following chemical compounds:
a) Copper sulphate b) Sulphuric acid c) Sodium hydroxide d) Calcium carbonate
- vii. What is buffer solution and types of buffer solution?

SECTION-C

Attempt any three questions.

3x7=21

- Q3.** What are the features and drawbacks of Bohr's atomic model? **7**
- Q4.** i) What is hard water and what are the causes of hardness of water? **4**
ii) Define oxidation, reduction and redox reaction. **3**
- Q5.** i) What are the characteristics of good lubricant? **4**
ii) Define Thermoplastics and thermosetting plastics with one example each. **3**
- Q6.** i) Distinguish between orbit and orbital. **4**
ii) Calculate pH of 0.001M HCl solution. **3**
- Q7.** i) Describe flash point and fire point. **4**
ii) Calculate molecular mass of CaCO_3 and NaOH (At. Mass of Ca=40, C=12, Na=23, O=16, H=1) **3**

APPLIED PHYSICS-I
1st Exam/Common/0102/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Dimensional formula of energy is _____.
- b. 1 Joule= _____ erg.
- c. If two vectors are perpendicular to each other, their dot product is always _____.
- d. _____ is a cause whose effect is temperature.
- e. The correct value of 0 °C on Kelvin scale is _____.
- f. Energy possessed by a body due to motion is called _____.
- g. SI unit of power is Watt. (T/F)
- h. Impulse is forcetime. (T/F)
- i. A flying bird possesses potential energy only. (T/F)
- j. Surface tension is numerically equal to force × length. (T/F)
- k. Blotting paper absorbs ink by capillary action. (T/F)
- l. Vector quantities follow laws of algebra. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Check the accuracy of the equation a) $v = u + at$ b) $E = mgh + \frac{1}{2}mv^2$
- ii. Differentiate between scalar and vector quantities.
- iii. Prove that the vectors $\vec{A} = 2\hat{i} - 3\hat{j} - \hat{k}$ and $\vec{B} = -6\hat{i} + 9\hat{j} + 3\hat{k}$ are parallel to each other.
- iv. Explain types of work with one example of each.
- v. A man whose mass is 75 kg walks up 10 steps each 0.2 m high in 5 seconds. Find the power developed by him.
- vi. Define the three moduli of elasticity.
- vii. Explain different modes of transfer of heat with one example of each.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Convert 1 Newton into dyne by using dimensional analysis.
- b. Write a note on banking of roads. Also find the expression for angle of banking.
- c. State law of conservation of energy. Show that for a freely falling body, the total mechanical energy is conserved.
- d. i) Define viscosity and give units of coefficient of viscosity.
ii) Explain significance of stress strain curve.
- e. Derive the relation between three coefficients (α , β and γ) of expansion.

ENGINEERING DRAWING-II
2nd Exam/Mech. /Mech. Engg. Prod/Prod/RAC/Auto/9342/May'26
(For 2023 Batch Onwards)

Duration: 4Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any ten of the following.

10x1=10

- a. The line of intersection of horizontal plane and vertical plane is called _____
- b. Riveting produces a _____ joint.
- c. In double strap butt joint, the thickness of the straps is _____
- d. In the process of welding, SAW stands for _____
- e. For transmitting power in one direction _____ thread is used.
- f. The angle of an ACME thread is _____
- g. _____ bolt is used for lifting heavy machinery.
- h. Simmonds locknut is locked with _____
- i. A joint mostly used for square rod ends is called a _____
- j. The flanges of the coupling are held together with odd no. of bolts. (T/F)
- k. Oldham coupling is recommended to connect two _____ shafts.
- l. The abbreviation SF stands for _____

SECTION-B

Q2. Attempt any two questions. Assume missing dimensions.

10x2=20

- i. Draw the following. a) Ring Collar Nut b) Taper Sunk Key
- ii. Draw a) Triple Riveted Lap Joint b) Metric Thread
- iii. Show the view of flange coupling in first angle projection.

SECTION-C

Q3. Attempt any one question.

1x20=20

- a. Draw the top view and sectional view of a combined lap and butt joint. Take the diameter of rivet is 20mm. Show the view in third angle projection only.
- b. Draw front view and side view of a hexagonal headed bolt with double chamfered nut, lock nut and washer assembly. Diameter of bolt, D = 24mm.

BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING
2nd Exam/ECE/ECE-II/CSE/IT/9504/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. The minority carriers in P-type semiconductors are_____.
- b. The instrument which is used for measurement of power is called_____.
- c. To make transistor work as an amplifier, it should be operated in _____region.
- d. The closed path followed by magnetic flux is called _____circuit.
- e. The _____is also known as insulated Gate Field Effect Transistor.
- f. The reverse voltage at which PN-Junction breaks is known as_____.
- g. The depletion layer depends upon doping. (T/F)
- h. Electrical energy = Electric power * Time. (T/F)
- i. The Collector Region is mediumly doped and smallest in area. (T/F)
- j. Intrinsic semiconductors are the purest form. (T/F)
- k. The FET's have three terminals viz gate, drain and Source. (T/F)
- l. Unit of inductive reactance is ohm. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Explain KIRCHHOFF'S Law?
- ii. Write a short note on half wave Rectifier.
- iii. Explain CMOS advantages and applications.
- iv. Differentiate between A.C. and D.C.
- v. Explain Biasing of Diode?
- vi. What is Cell? Explain?
- vii. Write a short note on self inductance?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain construction of lead acid battery.
- b. Explain characteristics of Common Emitter Configuration.
- c. What is Lenz's law? Also give its experimental verification.
- d. Explain the construction of JFET and their applications.
- e. Explain the concept of Intrinsic and Extrinsic semiconductor.

COMPUTER FUNDAMENTALS AND INFORMATION TECHNOLOGY

1st Exam/CSE/IT/9500/May'26

(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Fill in the blanks any nine of the following.

9x1=9

- a. Bold, Italian, Regular are known as _____.
- b. ALU stands for _____.
- c. Collection of eight bits is called _____.
- d. Resolution is the number of pixels in a given area (T/F)
- e. Main storage of computer is also called _____ memory.
- f. SUM function is used to add all the numbers in a range of cells (T/F)
- g. HTTP stands for _____.
- h. Which view in PowerPoint displays all the slides in a presentation as thumbnails?
- i. Machine language is a _____ level language.
- j. MS-Office is a system software(T/F)
- k. There are _____ classes of IP Addresses.
- l. A workbook is a multi-page excel document.(T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Explain difference between application software & System software.
- ii. What is a web browser? Write any two web browsers.
- iii. Explain Mail Merge feature of MS-Word.
- iv. What is Email? Write any two advantages and two disadvantages of email over postal mail.
- v. Write applications of Information technology.
- vi. Describe the parts of MS-Excel window.
- vii. Explain different views of MS-PowerPoint Slides.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Define computer. Draw block diagram of computer. Write characteristics of computer.
- b. What do you mean by Operating System? Explain types and features of Operating System.
- c. Compare LAN, MAN, WAN with suitable examples and diagrams.
- d. Explain input devices in detail.
- e. Write a short note on the following. i) Printers ii) Internet & its applications

BASICS OF AUTOMOBILE ENGINEERING
1st Exam/Auto/9328/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. A petrol engine uses a _____ to ignite the air-fuel mixture.
- b. The compression ratio of a diesel engine is _____ than that of a petrol engine.
- c. In an internal combustion engine, the combustion of fuel takes place _____ the engine cylinder.
- d. Steam engines and steam turbines are examples of _____ combustion engines.
- e. A petrol engine works on the _____ cycle.
- f. The lubrication system reduces _____ between moving parts.
- g. The clutch is used to _____ and _____ the engine power from the transmission system.
- h. The propeller shaft is usually made of _____ for strength and lightness.
- i. The differential receives power from the _____.
- j. Leaf springs are used in _____.
- k. A Diesel engine works on diesel cycle. (T/F)
- l. A two stroke engine has 2 valves. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Difference between internal combustion engines and external combustion engines.
- ii. What is the role of the propeller shaft?
- iii. Discuss the main differences between petrol and diesel engines.
- iv. What is the main purpose of the cooling system in a vehicle?
- v. How does the gearbox help in controlling vehicle speed and torque?
- vi. Difference between two-stroke and four-stroke engines.
- vii. How does the fuel system supply fuel to the engine?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain and list top manufacturer companies of two wheelers, cars and jeeps with their models.
- b. Explain the layout of automobile transmission system with a neat diagram.
- c. Explain the working of 4 stroke engines with diagram.
- d. List and explain any ten main components of an internal combustion engine.
- e. Explain the suspension system used in automobiles.

COMPUTER PROGRAMMING USING C
3rd Exam/CSE/IT/2nd ECE-II/9503/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Every program statement in a C program must end with _____.
- b. A loop completely enclosed by another loop is called _____ loop.
- c. In C, size of int variable is _____ bytes.
- d. The two ways in which values are passed to a function are _____ and _____.
- e. _____ is a collection of same type of elements.
- f. = is _____ operator in C.
- g. _____ is a decision making statement in C language.
- h. A pointer variable contains as its values the _____ of another variable.
- i. A break statement cannot be used to exit from a statement block in switch statement. (T/F)
- j. Elements of Array are placed next to each other in memory in C language. (T/F)
- k. The Keyword struct in C actually define a _____.
- l. fscanf function reads formatted data to a file. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Describe the various steps in development of program.
- ii. What do you mean by Arrays? Why arrays are used?
- iii. Explain the use of switch statement with example.
- iv. What do you mean by operator? Explain the role of logical operators.
- v. What do you mean by Pointer? Explain with example.
- vi. Write a program in C to find the largest of three numbers?
- vii. What do you mean by function? Explain with example.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain decision making with IF-statement, IF-Else and Nested IF.
- b. Describe the basic data types and operator in C.
- c. Explain various file operation functions in C.
- d. Write a program in C to arrange the numbers in ascending order.
- e. What do you mean by Structure and union? Explain with example.

BASIC DRAFTING & PATTERN MAKING-II
2nd Exam/GT_FD/7840/1468/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. What is princess line?
- b. Define dart.
- c. Name two types of skirts.
- d. Write any two types of figures.
- e. Collar is cut on width-wise grain. (T/F)
- f. Flare sleeve is cut on straight grain. (T/F)
- g. Peter Pan collar gives round effect on face. (T/F)
- h. Write the terminology of pants.
- i. What is pattern manipulation?
- j. Slash and spread technique used for puff sleeves. (T/F)
- k. Define yoke.
- l. Name two types of collars.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. What is functional yoke?
- ii. Explain different types of sleeves.
- iii. What is contouring in pattern-making?
- iv. Write dart manipulation techniques.
- v. Explain figure defect and figure types.
- vi. What are the principles of pattern making?
- vii. Explain slash and spread method of dart manipulation.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. What is terminology of patterns? Explain any five types of patterns.
- b. Write a brief note on collar and explain the different types of collars.
- c. Explain the principle of dart and dart manipulation.
- d. Explain the principle of pattern making in detail.
- e. Describe various types of skirts and their pattern styles.

TEXTILE SCIENCE
2nd Exam/GT/FD/7829/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- i. Among the following which fibre is having lowest moisture regain value?
a) Flex b) Polyester c) Cotton d) Silk
- ii. Silk is a mineral fibre. (True/False)
- iii. Polyester is the most durable fibre. (True/False)
- iv. Short staple polyester fibre can be spun on which spinning system.
- v. Define textile fibre.
- vi. What is novelty yarn?
- vii. Convert 20 tex yarn into English count Ne.
- viii. What is Loom?
- ix. Define tex of Yarn.
- x. Which weave design provides minimum interlacement points?
- xi. _____ Textile fibre is a cellulosic fibre.
- xii. _____ Fabric have maximum tensile strength when produce with similar type of yarn fabric parameters.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- a. Give the classification of synthetic textile fibres.
- b. Explain the physical properties of viscous fibre.
- c. Explain the chemical properties of flex fibre.
- d. Draw the process flow chart of combed ring spinning system of cotton fibre.
- e. Write down a short note on plied yarn and textured yarn.
- f. Explain the direct method of yarn count with examples.
- g. Explain the method of calculation of yarn twist with twist and re-twist method.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- i. Write down the classification of textile fibre of cellulosic and protien origin.
- ii. Explain in detail physical and chemical properties of Wool fibres.
- iii. Write down the detail classification textile yarn.
- iv. Explain the need and importance of identification of textile fibres.
- v. What is yarn count? Explain with example English count and Metric count.

S.B. Roll. No.....

BASIC DESIGN
1st Exam/GT/FD/7809/2357/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Define line.
- b. Define design.
- c. Write two primary colours.
- d. Name two elements of design.
- e. Outer shape of a garment is called silhouette. (T/F)
- f. When we mix yellow and red we get green colour?
- g. Write any two warm colours.
- h. Name three secondary colors.
- i. Horizontal lines are good for tall people. (T/F)
- j. Red is a cool colour. (T/F)
- k. Define illusion.
- l. Define tones.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. What is the difference between warm and cool colour.
- ii. Explain optical illusion.
- iii. Describe collage and its types.
- iv. Write note on tints and shades.
- v. Explain types of lines.
- vi. Define balance and unity.
- vii. Describe primary colours.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain elements of design.
- b. Describe all principle of designs.
- c. Write Importance of Colours using colour wheel.
- d. Write different types of optical illusion.
- e. Write note on any two i) Texture ii) harmony iii) secondary colours

GARMENT CONSTRUCTION-I
1st Exam/GT/FD/7839/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. _____ tool is used for drawing curved lines in garment.
- b. Write 3 types of seams.
- c. Define grain lines.
- d. First step of preparation of fabric is _____
- e. Define fasteners.
- f. Tracing wheel is used for cutting (T/F)
- g. Vertical line is always parallel to the selvedge. (T/F)
- h. Gathers added fullness in the garment. (T/F)
- i. Yolks are cut on Width wise grains. (T/F)
- j. Straight skirt is cut on bias grains. (T/F)
- k. Write two cutting tools.
- l. Write two machine parts.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Explain importance of dart in Fitting.
- ii. Describe all Seam finishes.
- iii. Write all parts of sewing machine and their functions.
- iv. What is the sequence of cutting?
- v. Explain ironing of fabric.
- vi. Describe grain line and selvedge.
- vii. Write all marking tools.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. What are the steps of preparation of fabric for cutting?
- b. Write tools and equipment used in clothing construction.
- c. What are the common sewing problems and their solutions?
- d. Describe all types of Seams.
- e. Write a note on any two- i) pleats ii) gahter iii) tucks

BASIC DRAFTING AND PATTERN MAKING-I
1st Exam/GT/FD/7830/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Give answer in one line any nine of the following.

9x1=9

- a. Define drafting.
- b. What is pattern making?
- c. Name any two methods of taking body measurements.
- d. Write one example of a circumference measurement.
- e. Name one vertical body measurement.
- f. What is the importance of a French curve in pattern making?
- g. Write one disadvantage of drafting.
- h. Name any two pattern making tools.
- i. What does the term "selvedge" mean?
- j. Define "true bias".
- k. What is meant by apex in pattern making?
- l. Write one use of a notcher.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Explain the importance of drafting and pattern making in garment construction.
- ii. What are the direct, indirect, and landmark methods of taking measurements?
- iii. Describe horizontal and vertical measurements with two examples each.
- iv. List and explain any five essential tools used in pattern making.
- v. Write a short note on flat pattern making and working patterns.
- vi. Explain the terms grain, warp, and weft in fabric.
- vii. What are darts? Discuss different parts of a dart.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Discuss the advantages and disadvantages of drafting and pattern making with suitable examples.
- b. Explain the classification of measurements: circumference, horizontal, and vertical, with examples.
- c. What are the different terms used in pattern making? Explain any six in detail.
- d. Describe in detail the process of pattern drafting and pattern manipulation.
- e. Explain with examples symmetrical and asymmetrical lines, and their importance in pattern design.

FURNITURE DESIGN-I
2nd Exam/IDD/8419/2449/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Basic size of rectangular dressing table is _____.
- b. Housed joint is a type of _____ joint.
- c. Name any two types of bearing joints?
- d. Name any two types of wood used in furniture?
- e. Give names of any two hardware tools used for making furniture?
- f. Name any two upholstery materials used in furniture?
- g. Explain mortise and ten on joint?
- h. What are the sizes of a double bed?
- i. Name any two commercial furniture used in hotels.
- j. What are widening joints?
- k. What finishes is done on wooden furniture?
- l. What are veneers?

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Explain the method of care and maintenance of wooden furniture.
- ii. Draw freehand sketch of glass centre table?
- iii. Draw plan and elevation of dining chair?
- iv. Differentiate between residential and commercial furniture with examples.
- v. Draw free hand sketch of a showcase?
- vi. What types of metals are used in Furniture? Give examples.
- vii. Draw isometric view of office counter.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Draft the plan, front elevation, side elevation of a wardrobe?
- b. Draft plan, front elevation, and side elevation of a dressing unit?
- c. Draft isometric views of t.v unit ?
- d. Draft plan, front elevation and isometric view with detailed specification of a three seater sofa or couch?
- e. Draw isometric view of a double bed with side tables?

GRAPHIC PRESENTATION-II
2nd Exam/IDD/8417/2447/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any ten of the following.

10x1=10

- a. What is a bounding box?
- b. Draw the isometric of a SQUARE PYRAMID.
- c. What is Station Point?
- d. The rays of The Sun are assumed at an angle of _____ in drawing shades and shadows
- e. In trimetric projection, _____ angles are equal
- f. In a dimetric projection, all angles are _____
- g. Perspective drawing is a technique to create linear illusion of _____.
- h. The study of _____ cast on objects is called sciography.
- i. What is Horizontal plane?
- j. There is 1_____ in one-point perspective.
- k. What is Vanishing Point?
- l. The projected isometric lengths are _____% of the true length

SECTION-B

Q2. Attempt any two questions.

2x10=20

- i. Draw the isometric view of a cube side 4 c.m. lying on top and centre of cylinder of radius 3 c.m. and height 3c.m
- ii. Draw the sciography of a cube of side 8 c.m.
- iii. Draw the isometric view of a cone of radius 2 c.m. and height 6 c.m lying on top and centre of a Square prism side 6 c.m. and height 2 c.m

SECTION-C

Q3. Draw one-point perspective of any one of the following.

1x20=20

- a. Chair
- b. Table

*use appropriate scale

S.B. Roll. No.....

CONSTRUCTION TECHNIQUE-I
2nd Exam/IDD/8418/2448/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any ten of the following.

10x1=10

- a. Bed is the _____ surface of the brick when laid flat.
- b. Standard size of a brick is _____.
- c. Intrados is defined as _____.
- d. R.C.C. stands for _____.
- e. Queen closer is defined as _____.
- f. English bond is defined as _____.
- g. Define lintel.
- h. Standard thickness of R.C.C. slab used in flat roof is _____.
- i. Lean to roof has slope on both sides. (T/F)
- j. Cow nose is defined as _____.
- k. Span is defined as _____.
- l. Bricks should be laid with their frog upward. (T/F)

SECTION-B

Q2. Attempt any two questions.

2x10=20

- i. Draw a section through wooden lintel at some suitable scale.
- ii. Draw a section through flat roof.
- iii. Draw a section through 13.5" thick foundation wall.

SECTION-C

Q3. Attempt any one question.

1x20=20

- a. Draw plan and elevation of L- junction of 9"x 9" thick brick wall at some suitable scale.
- b. Draw a section through semi-circular arch at some suitable scale.

INTERIOR MATERIALS
2nd Exam/IDD/8409/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. P.O.P stands for _____.
- b. P.V.C full form _____.
- c. Define Mural?
- d. Standard size of ceramic tile _____.
- e. Define carpets and rugs?
- f. Paints are available in _____ and _____ Finish.
- g. Uses of Hessian cloth?
- h. _____ glass is commonly used in windows.
- i. _____ is the minimum and maximum thickness of plywood available in the market.
- j. MDF is a _____.
- k. Porcelain tiles are type of ceramic tiles but fired at low temperature. (T/F)
- l. Size of MS butt hinge is _____.

SECTION-B

Q2. Write short note on any five of the following.

5x4=20

- i. Advantages and disadvantages of wooden flooring.
- ii. Discuss the latest texture in wall paints.
- iii. Properties of a good upholstery material.
- iv. Write in brief about Ceilings.
- v. Write the uses of oil and water based paint.
- vi. How do textiles play an important role in interiors?
- vii. Give sizes and application methods of hinges, channels of drawers.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Discuss the type of windows and their treatment in interiors and exteriors with sketches.
- b. Discuss type of wall panelling and their usage.
- c. Accessories play an important role in interiors. Explain with reference to the selection.
- d. Explain the various types of stone available in the Indian market and its uses.
- e. What are the various types of floor coverings?

HISTORY OF INTERIORS
2nd Exam/IDD/8408/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

Attempt all the questions and Support all of your answers with appropriate sketches

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. The Persian style of architecture directly visible in _____ buildings in India.
- b. The religious building from China and Japan with tilted stylish roof tops are called _____.
- c. Bazantine architecture is remembered for construction of various types of _____.
- d. Gopuram is one of the main parts of south Indian _____ architecture.
- e. White marble is the main building material used by Mughals to build _____.
- f. The south Indian temple architecture is also known as _____ style.
- g. Muslim architectural structures are famous for their door openings designs known as _____.
- h. In Japanese construction system Columns were constructed to bear full the load of roof. (T/F)
- i. Romans were very poor builders & constructed very low quality structures. (T/F)
- j. The terracotta seals found in Indus valley are of very high quality. (T/F)
- k. Ashoka pillar is also built in the stupa campus at Sanchi. (T/F)
- l. Golden temple is one of the famous heritage sites from India. (T/F)

SECTION-B

Q2. Write short note on any five of the following.

5x4=20

- i. British colonial architecture in India
- ii. Tokonama, lanterns & Shoji - Japan
- iii. Roman architectural structures.
- iv. Sun temple at Konark
- v. Golden Temple- a symbol of unity and brotherhood
- vi. Inlay and engraved carving work at Taj.
- vii. Types of Greek orders.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain difference between Rekha - deul and Pidha- deul from the traditional Orissan Indian temple in detail?
- b. Indus valley civilization is famous for its pottery and advance drainage system. Explain?
- c. Explain- Chandigarh city is best example of planning and modernisation in India.
- d. Write in detail about the origin and significance of Gopuram in south India.
- e. What do you know about the beauty of translucent coloured stained glass windows from Gothic era?

INTERIOR DESIGN-I
2nd Exam/IDD/8412/2446/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any ten of the following.

10x1=10

- a. Write the size of a dining chair.
- b. Write the size of an KING SIZE BED
- c. Height of a study table is _____.
- d. _____ & _____ are the most common themes of interior design.
- e. _____ theme has a rustic look.
- f. The depth of a wardrobe is _____
- g. The standard width of a bedroom door is _____
- h. _____ kitchen has 2 connected counters
- i. The standard height of ceiling in a residence is _____
- j. What is a powder room?
- k. _____ colors are mostly used in modern theme
- l. The width of a kitchen counter is _____

SECTION-B

Q2. Attempt any two questions.

2x10=20

- i. Write in detail about different types of Kitchen plans
- ii. Explain the difference between a full and a half bathroom.
- iii. Write about any 5 interior design themes used in residence design

SECTION-C

Q3. Draw a rendered and labeled furniture layout of any one of the following.

1x20=20

- a. Master Bed Room of size 18'0" X 14'0"
 - b. Drawing Room of size 20'0" X 15'0"
- *use appropriate scale

FUNDAMENTALS OF FURNITURE DESIGN
1st Exam/IDD/8404/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. What are the sizes of circular 4 seater dining table?
- b. Define MODULAR furniture?
- c. Mention the sizes of rectangular centre table?
- d. Fabrication technique involved in furniture is called _____.
- e. Name two types of woods which are used in furniture?
- f. What is Full form of MDF?
- g. What are built in wardrobes?
- h. What is contemporary furniture?
- i. Klismos famous furniture of Egyptian period. (T/F)
- j. What is Anthropometry?
- k. What are the sizes of Double bed?
- l. Name any two eco friendly materials used in furniture?

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. What are the characteristics of Colonial Furniture?
- ii. Draw free hand sketch of a Dining chair?
- iii. Explain importance of furniture in Interior Design?
- iv. Draw free hand sketch of a three seater couch?
- v. Write down few characteristic features of Egyptian Period Furniture?
- vi. Define Upholstery?
- vii. Differentiate between residential furniture and commercial furniture used in interiors?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Differentiate between fixed and Modular Furniture with examples?
- b. What are the basic elements and Principles of Furniture Design?
- c. Explain characteristic features of English and Colonial Furniture?
- d. What are the factors affecting designing of furniture?
- e. Explain in detail the characteristics features of Greek and Roman period furniture?

S.B. Roll. No.....

GRAPHIC PRESENTATION-I
1st Exam/IDD/8406/2389/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Give answer in one line any ten of the following.

10x1=10

- a. Draw Continuity Line.
- b. Explain a method of reduction with the help of a figure.
- c. Draw a square and dimension it.
- d. Draw an angle of 60° and dimension it.
- e. Draw the conventional symbol of Stone.
- f. What shape is the elevation of a cone?
- g. How many faces does a cube have?
- h. Draw the conventional symbol of revolving door.
- i. Draw a birdcage for an interior space.
- j. Draw the conventional symbol of WC.
- k. Draw the conventional symbol of ceiling fan.
- l. Draw an indoor plant.

SECTION-B

Q2. Attempt any two questions.

2x10=20

- i. Draw the plan and elevation of a CONE with base radius 3 c.m. and height 12 c.m.
- ii. Draw the horizontal section of a solid CUBE with side 8 c.m.
- iii. Write 'INTERIOR DESIGN' in the height of 1 c.m.

SECTION-C

Q3. Draw plan and elevations of any one of the following.

1x20=20

- a. Chair
- b. Table

*use appropriate scale

HISTORY OF ART & CULTURE
1st Exam/IDD/8403/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

Attempt all the questions and Support your answer with appropriate sketches

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- In south India _____ is drawn on floor by women as part of daily morning ritual.
- Traditional folk wall decorative art from Maharashtra is known as _____
- Meenakari art work is done on the surface of _____
- Handicrafts are of types known as religious, decorative & _____
- The Kashmiri artisans produce light weight colourful handicrafts known as _____ work.
- Pottery earthen ware is known as _____ handicraft.
- Miniature painting is a painting done in _____ size.
- Ajanta and Ellora are the best examples of caves art in India. (T/F)
- All handicrafts are produced in same size, shape and materials. (T/F)
- Metal lamps of all types are produced at large as part of religious type of handicraft. (T/F)
- Soft walnut wood is popular for preparing carved objects of handicraft in Kashmir region. (T/F)
- Rangoli design is created on roofs by women folk as part of devotion in India. (T/F)

SECTION-B

Q2. Write short notes on any five of the following.

5x4=20

- Handmade Namda & Gabba
- Tantric art work
- Mithila wall art.
- Baster Handicrafts
- Kalamkaritextile
- Miniature painting style of painting
- Metal objects from Bidar

SECTION-C

Q3. Attempt any three questions.

3x7=21

- Write about the inlay & engraving works done at Taj in detail
- What do you know about the types of traditional painting styles done in different parts of India?
- What is Handicraft? Explain in detail about its types and use.
- What do you understand by traditional Indian floor decorations? Write about its styles, designs & materials used?
- Write in detail about Tanjore painting, its theme, style and material used.

BASICS OF DESIGN
1st Exam/IDD/8400/2388/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

NOTE: Attempt all the questions and Support your answers with appropriate sketches.

SECTION-A

Q1. a) State True or False. (any four)

4+4+2=10

- i. Kashmiri artisans prepare various articles to be used for decorative purpose only. (T/F)
- ii. Contrast colours are opposite colours on a colour wheel. (T/F)
- iii. Madhubani design is created on the surface of walls.
- iv. The Warli painting is done only by skilled artisans in Maharashtra.
- v. Greys come under primary colour scheme.

b) Complete the sentences. (any four)

- vi. Receding colours are _____
- vii. The Anthropometry is study of _____
- viii. By mixing a primary & other secondary colour we get _____
- ix. Hot colours are _____
- x. Shades of any colour are prepared by mixing _____

c) Depict the following with simple drawings and dimensions:

- xi. The height of a medium size bench and what is the space allocated for the front foot rest under the bench.
- xii. The average heights and widths of various body parts in relation to space planning. (T/F)

SECTION-B

Q2. Write short notes on any two of the following.

2x10=20

- a. Elements of design.
- b. Psychological effects of Primary colours.
- c. Principles of design.

SECTION-C

Q3. Attempt any one question.

1x20=20

- i. Using contrast colours along with various types of abstract shapes, draw a composition for a reception area in a commercial space - .Size 8'X4'
- ii. Draw a colour wheel in detail showing primary, secondary and intermediary colours. Size of circular wheel should not be less than 6" diameter.

BUILDING MATERIALS
1st Exam/IDD/8407/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. R.C.C. stands for _____.
- b. Concrete is a mixture of Sand, _____ and water
- c. M.S. pipe is used for _____
- d. Steel is used for _____ in interiors
- e. P.V. C stands for _____
- f. _____ is the standard size of a brick
- g. Water cement ratio of concrete is _____
- h. Define varnish.
- i. A laminate is made of metal. (T/F)
- j. Size of a brick tile is _____
- k. Emulsions are water only based. (T/F)
- l. Name a metal used to make furniture.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Write 5 properties of stones.
- ii. Discuss the uses of cement
- iii. Explain the various roofing materials.
- iv. Discuss the various types and properties of glass.
- v. Write about the uses of brick tiles
- vi. What are fly ash bricks made of and their uses?
- vii. What are the uses of plastic in interiors?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain in detail the different types of bricks used in masonry and their uses.
- b. What are the various uses of stones in interiors?
- c. Write in detail about various types of paints.
- d. What are the various defects of timber and its treatment?
- e. Discuss the different defects of plaster.

FLAT KNITTING TECHNOLOGY-I
2nd Exam/KT/7033/1440/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. The needle movement in hand flat knitting is controlled by _____.
- b. The gauge refers to number of _____ per inch in knitting machine.
- c. Hand flat knitting produces knitted fabric by forming _____ with yarn.
- d. A vertical column of needle loops is called _____.
- e. _____ increases the number of stitches.
- f. V-bed machine consists of two needle beds. (T/F)
- g. Loops are the foundation of knitted fabric. (T/F)
- h. Needle actions are governed by cam systems. (T/F)
- i. Weaving involves interloping of yarn. (T/F)
- j. Latch needles are widely used in flat knitting. (T/F)
- k. What is GSM?
- l. Name two knitting methods for producing knitted fabrics.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Write down the features of V-bed flat knitting machine.
- ii. Classify the flat bed knitting machines.
- iii. Write about Jacquard in Knitting.
- iv. What is narrowing and widening.
- v. Differentiate between single bed and V-bed flat knitting machines..
- vi. Enlist common faults in flat knitting.
- vii. Explain different parts of flat knitting machine and their functions.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Describe the cylinder cam systems of hand driven flat knitting machine.
- b. What are tuck and float stitch and how they are formed
- c. Explain the loop formation of latch needle on V bed flat knitting machine.
- d. Explain any five faults which occur while knitting the fabric on flat knitting machine. Discuss their causes & suggest remedies to control them.
- e. Discuss the cam system of jacquard flat knitting machine.

BLEACHING TECHNOLOGY-I
2nd Exam/TP/7660/2499/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. CBR is continuous/discontinuous method of bleaching (tick choice)
- b. Singeing removes natural pigment/protruding fibers/sizes (tick choice)
- c. Mercerization is done for wool/silk/polyester/none of these fabrics (tick choice)
- d. Bleaching process is done after dyeing. (T/F)
- e. _____ is used in mercerization process.
- f. Sodium hypochlorite is a reducing agent. (T/F)
- g. Sodium chlorite is an oxidizing agent. (T/F)
- h. Hydrogen peroxide bleaching is done under acidic conditions. (T/F)
- i. Name any one cellulosic fiber.
- j. Name any protein fiber.
- k. Mercerization is done under highly alkaline conditions. (T/F)
- l. Viscose rayon is a natural fiber. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Write a note on advantages of mercerization of cotton.
- ii. Explain method scouring of coloured woven goods.
- iii. Write method of bleaching of cotton with bleaching powder.
- iv. Write importance of singeing process.
- v. Explain principle and importance of scouring process.
- vi. What are various physical and chemical changes occur in cotton after mercerization?
- vii. Explain importance of bleaching in processing of textiles.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Write various natural and added impurities found in cotton.
- b. Explain description and working of high pressure kiering machine.
- c. Write a detail note on bleaching of cotton with hydrogen peroxide.
- d. Write in detail method of mercerization of cotton on paid chain machine.
- e. Explain briefly different methods employed for desizing.

TEXTILE FIBRE TECHNOLOGY-I
2nd Exam/KT/TP/7013/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. _____ fibre is known as golden fibre.
- b. Silk we get from _____
- c. Polyester is _____ fibre.
- d. Name any one vegetable fibre.
- e. Name any one minor fibre.
- f. Write one use of jute.
- g. Filaments are of infinite length. (T/F)
- h. Silk burns quickly with yellow flame. (T/F)
- i. Wool fibre is an example of animal fibre. (T/F)
- j. Name the longest natural fibre.
- k. What are woven fabrics?
- l. Draw cross sectional view of cotton.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Explain mercerization of cotton.
- ii. Write briefly about Felting of wool
- iii. List out the natural impurities present in raw cotton.
- iv. How will you identify cotton and wool by burning test?
- v. Write the uses of cotton fibre.
- vi. Compare animal and vegetable fibres.
- vii. Classify the textile fibres according to their nature & origin.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. What is textile fibre? Discuss the general properties of textile fibres.
- b. What are animal fibres? Write the difference between wool and silk fibres.
- c. Discuss physical properties and chemical properties of cotton.
- d. Explain the origin, properties and usage of jute and hemp fibres.
- e. Write short note on following. i) Degumming of silk ii) Action of acids on Wool

BASIC KNITTING TECHNOLOGY
2nd Exam/KT/7030/1430/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Who invented the bearded needle?
- b. Which cam raises the needle to highest position?
- c. Define wale in knitting terminology.
- d. Draw faces loop stitch.
- e. Latch needle is the oldest needle. (T/F)
- f. Filaments are of short length. (T/F)
- g. Machine gauge represents needles per cm. (T/F)
- h. Stitch density means the total number of loops in square inch area. (T/F)
- i. There are generally _____ methods of yarn feeding to knitting machine.
- j. A horizontal row of needle loops is called _____.
- k. _____ cam controls the needle depth.
- l. Staple fibers are fibers of _____ length.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Describe float stitch and illustrate how it is formed.
- ii. With a neat diagram, explain the cylinder cam set of hand driven socks knitting machine.
- iii. What types of products can be produced on hand driven socks machine.
- iv. Compare warp and weft knitting on different parameters.
- v. What role does a sinker play in knitting?
- vi. List the features of rib fabric.
- vii. Name various knitting needles and draw & label bearded needle.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Discuss the various fabric manufacturing systems supported by diagrams.
- b. What is knitting? Explain the different methods of knitting.
- c. What is winding. State the advantages of good winding of yarn in knitting.
- d. Present a comparative analysis of woven fabrics vs knitted fabrics
- e. Explain the loop formation of latch needle with diagram.

ORGANIC CHEMISTRY
2nd Exam/TP/7649/2498/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION –A

Q1. Do as directed any nine of the following.

9x1=9

a) Fill in the blanks.

- i. Acetic acid belongs to _____ acids.
- ii. PH value less than 7 indicates.
- iii. Hardness of water is mainly due to _____ Salts.
- iv. Urea can be represented as _____
- v. Detergents work well in _____ Water.

b) Write the General formula of the following.

- vi. Esters
- vii. Amides
- viii. Alcohols
- ix. Alkynes
- x. Acetic acid
- xi. Carboxylic acid.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- a. Explain the detection of nitrogen in organic compound with chemical reaction.
- b. Describe the properties and uses of alcohols and carboxylic acids.
- c. Explain the structure and properties of benzene .why it is called an aromatic compound?
- d. Write down the preparation of ethylene process.
- e. Define the alcohol and its classification.
- f. Write short note of i) Urea ii) Ethanol

SECTION-C

Q3. Attempt any three questions.

3x7=21

- i. Explain the concept of pH and buffer solutions and their importance in textile properties.
- ii. Difference between alkanes, alkenes and alkynes.
- iii. Describe the manufacture, properties, and cleaning action of soaps and detergents.
- iv. Difference between aliphatic compound and aromatic compounds.

LIBRARY CLASSIFICATION-II
2nd Exam/LIS/2837/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Give answer in one line any nine of the following.

9x1=9

- a. Who is the father of Colon Classification?
- b. In which year was Colon Classification first published?
- c. Name any one Fundamental Category.
- d. Expand PMEST.
- e. What is meant by Personality in Colon Classification?
- f. Define Common Isolate.
- g. Name any one type of Common Isolate.
- h. What is meant by Device in Colon Classification?
- i. Define Mnemonics.
- j. State one feature of Colon Classification.
- k. What is meant by Energy facet?
- l. Write one step of Library Classification.

SECTION-B

Q2. Write short notes on any five of the following.

5x4=20

- i. Explain the origin and development of Colon Classification.
- ii. Describe the Five Fundamental Categories (PMEST).
- iii. Write a short note on the steps of Library Classification according to Colon Classification.
- iv. Explain Common Isolates and their types.
- v. Discuss Devices used in Colon Classification.
- vi. Write a short note on Mnemonics.
- vii. Explain the need and purpose of Colon Classification.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Discuss Colon Classification in detail, including its features and importance.
- b. Explain the Five Fundamental Categories with examples.
- c. Describe the steps involved in Library Classification according to Colon Classification.
- d. Discuss Common Isolates and explain their types with examples.
- e. Explain Devices and Mnemonics in Colon Classification and their use.

IT APPLICATIONS IN LIBRARY SERVICES
2nd Exam/LIS/2839/2412/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. A keyboard is an output device. (True / False)
- b. _____ is the short form of *electronic mail*.
- c. Name one Open source software.
- d. WAN stands for _____.
- e. The full form of CMS is _____.
- f. Which of the following is a type of network topology?(Star/ Circle)
- g. _____ is an example of an institutional repository.
- h. Turnitin is an anti-plagiarism software. (True / False)
- i. Who gave the term World Wide Web? (Bill Gates/ Tim Berners-Lee)
- j. Which of the following is computer hardware? (Google Chrome / Keyboard)
- k. A blog is an online journal or website where people share ideas. (T/F))
- l. Anti-plagiarism software is mainly used to _____ (Detect copied or unoriginal content/ Speed up internet browsing)

SECTION-B

Q2. Write short note on any five of the following.

5x4=20

- i. Define networking
- ii. Components of networking
- iii. Explain WWW
- iv. Importance of content management systems
- v. Anti-plagiarism software
- vi. Use of a Google meet
- vii. Elaborate LAN

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain the LAN, WAN and different topologies of networking.
- b. What are the uses of Search engines? Explain the advantages of Email
- c. Define anti-plagiarism software and explain its advantages.
- d. Explain any one open source content management systems in detail.
- e. Explain the role of a digital repository in research and development.

LIBRARY ORGANIZATION & SERVICES
2nd Exam/LIS/2836/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Name any one National Organization in India.
- b. What is the full form of NISCAIR?
- c. Name the National Library of India and its location.
- d. Which is the national library of the USA?
- e. Which is the national library of the UK?
- f. Expand IFLA.
- g. NDLI provides resource sharing services. (T/F)
- h. What is meant by Inter Library Loan?
- i. Define Document Delivery Service.
- j. State one objective of INFLIBNET.
- k. Name any one international body supporting library development.
- l. What is Information Literacy?

SECTION-B

Q2. Write short notes on any five of the following.

5x4=20

- i. Explain the aims and objectives of NISCAIR
- ii. Describe the objectives and services of Library of Congress, USA.
- iii. Explain the objectives and services of the British Library, UK.
- iv. Write a short note on professional organizations: IFLA, UNESCO
- v. Explain Resource Sharing and its importance.
- vi. Discuss the activities and services of NDLI.
- vii. Write a short note on Information Literacy Services.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Discuss the aims, objectives, services and activities of major national organizations in India (DESIDOC, INFLIBNET).
- b. Explain the national library systems of India.
- c. Discuss the role of National professional bodies (ILA, RRRLF) in library development.
- d. Explain the concept of Resource Sharing and describe Inter Library Loan and Document Delivery Services.
- e. Discuss Information Literacy Services including promotion of library products, user education, and library orientation.

LIBRARY CATALOGUING-II
2nd Exam/LIS/2838/2411/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Full form of AACR 2
- b. Periodicals have no fixed periodicity. (T/F)
- c. How many sections are there in the main entry of CCC?
- d. Leading section in CCC occupies _____ number
- e. BIE stands for _____
- f. Single authorship.
- g. Which link in chain procedure is used as subject heading?
- h. Who has given CCC?
- i. What is the main source of information for cataloguing?
- j. Which method is used for deriving subject headings in CCC?
- k. A unique number of a book in a library is called _____ Number
- l. Who is considered as father of Library science?

SECTION-B

Q2. Write short note on any five of the following.

5x4=20

- i. Union catalogue
- ii. Merits of chain procedure
- iii. Cooperative cataloguing
- iv. Joint authorship
- v. Different sections of main entry in CCC
- vi. CIE
- vii. Tracing section (CCC)

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. What is single authorship? Explain choice in rendering for the main and added entries in CCC.
- b. Write an essay on centralised cataloguing
- c. What is pseudonym? Illustrate your answer giving an example according to CCC.
- d. What are the different kinds of entries? Write down different added entries in CCC.
- e. Explain with examples the chain procedure.

LIBRARY CLASSIFICATION-I
1st Exam/LIS/2832/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Give answer in one line any nine of the following.

9x1=9

- a. Define Knowledge in one sentence.
- b. Arrange the following in correct order: Data, Knowledge, Information, and Wisdom.
- c. What is meant by Universe of Subjects?
- d. Name one type of subject.
- e. Define Library Classification.
- f. State one need of Library Classification.
- g. What is Notation in classification?
- h. Name one quality of a good notation.
- i. What is a Call Number?
- j. Write the full form of DDC.
- k. Write the full form of UDC.
- l. Name any one part of Call Number.

SECTION-B

Q2. Write short notes on any five of the following.

5x4=20

- i. Explain Data, Information, Knowledge and Wisdom.
- ii. Describe Simple, Compound and Complex subjects with examples.
- iii. Explain the need and purpose of Library Classification.
- iv. Write a short note on Notation system and its types.
- v. Discuss the parts of a Call Number.
- vi. Write a short note on UDC.
- vii. Explain the structure of DDC.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Discuss the concept of Knowledge and classification of knowledge in detail.
- b. Explain the definition, functions and importance of Library Classification.
- c. Describe Notation system and explain the qualities of a good notation.
- d. Explain Call Number and its parts: Class Number, Book Number and Collection Number.
- e. Discuss DDC in detail: its origin, development, structure, tables, schedules and Relative Index.

LIBRARY CATALOGUING-I
1st Exam/LIS/2835/2332/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Who is called the father of Library Science?
- b. What is the full form of CCC?
- c. What do we call the writer of a book (author/Publisher)?
- d. Who makes (prepares) a catalogue card?
- e. What is the standard size of a catalogue card?
- f. Give the full form of MARC.
- g. Who devised Colon Classification (CC)?
- h. Tracing is made at the bottom of the catalogue card in AACR. (T/F)
- i. In which year was the first AACR published?
- j. What is the special number given to a new book in a library called?
- k. Is the call number written with a pen or a pencil?
- l. What is the Fourth Law of Library Science?

SECTION-B

Q2. Write short note on any five of the following.

5x4=20

- i. Need of a catalogue
- ii. Differentiate a publisher catalogue from a library catalogue
- iii. Construct a main entry with AACR2
- iv. OPAC
- v. Use of printed subject heading list
- vi. Forms of Library catalogue
- vii. Shelf list

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. What is the purpose and functions a library catalogue? Explain.
- b. Describe any one type of the conventional form of catalogue. Mention its advantages and disadvantages.
- c. Explain the different kinds of entries prepared in AACR2.
- d. Write a detailed note on Sear's List of Subject Headings.
- e. Compare the Conventional and Non-conventional forms of cataloguing.

BASIC ENGINEERING
2nd Exam/LT/FLT/7528/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- i. _____ belts are of rectangular cross section.
- ii. The flow of electric charge is called electric _____
- iii. The mechanical devices used to increase the _____ energy of a fluid.
- iv. The inner side of the belt is in compression and the outer side in tension. (T/F)
- v. An electric current heats any body through which it passes. (T/F)
- vi. Cement is considered as the best binding material in the world. (T/F)
- vii. Concrete is a man-made construction material. (T/F)
- viii. The gear drive can operate at higher speed as compared to a) Belt drive b) Chain drive c) Both a & b
- ix. An electric current causes chemical action when passed through an
a) Electrolyte b) Resistance c) Wood
- x. Which one of the following construction material is a natural gift to man-kind?
a) Cement b) Wood c) Bricks
- xi. What is the unit of electric current?
- xii. Write the ideal water cement ratio in concrete?

SECTION-B

Q2. Attempt any five questions.

5x4=20

- a. What is the purpose of earth wire in low voltage distribution?
- b. What will happen, if no fuse is provided in the circuit?
- c. Describe relation between water cement ratio and strength of concrete.
- d. What are the advantages of v-belt drive?
- e. Mention five applications of electricity.
- f. Explain with the diagram socket outlet of electricity.
- g. What are the main uses of cement?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- i. Describe the desired characteristics of construction materials.
- ii. What is gear drive? Describe the different types of gears.
- iii. Write down the difference between A.C. & D.C. current.
- iv. Describe the various advantages and disadvantages of concrete.
- v. What do you mean by domestic installation of electricity?

ORGANIC CHEMISTRY-I
2nd Exam/LT/7527/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed nine of the following.

9x1=9

- i. Acetylene is a constituent of _____ gas.
- ii. The name aldehyde has been derived from the _____ dehydrogenatum.
- iii. Oxalic acid is formed during the hydrolysis of _____
- iv. Dihydric alcohols contain two hydroxyl groups.(T/F)
- v. Glycol is a colorless oily liquid.(T/F)
- vi. Ethers are very stable.(T/F)
- vii. Aldehydes are very reactive.(T/F)
- viii. Ketones do not react with. a) Alkalis b) Acids c) water
- ix. A acetylene gas is commonly prepared from calcium Carbide by the action of a) Lime b) Acid c) water
- x. Formaldehyde finds Considerable use in the manufacture of a) dyes b) Synthetic resins c) both a & b
- xi. Write the chemical formula of formic acid.
- xii. What is the main use of methane

SECTION-B

Q2. Attempt any five questions.

5x4=20

- a. How hydrocarbons are classified?
- b. What is meant by alcoholic fermentation?
- c. Write the general properties of ether.
- d. Write a note on aviation petrol.
- e. How ethylene is particularly prepared?
- f. Expand the statement "methane is a saturated hydrocarbon".
- g. How would you know whether a given organic Compound is pure or impure?

SECTION-C

Q3. Attempt three questions.

3x7=21

- i. What are various fractions obtained from petroleum? Mention the industrial uses to which they are put.
- ii. How is pure aldehyde prepared? State its properties and uses.
- iii. Describe the important methods that are used for the preparation of ethers.
- iv. How is glycol obtained? Give its important reactions.
- v. What are hydrocarbons? How are they classified?

ELEMENTS OF LEATHER TECHNOLOGY
2nd Exam/FLT/9114/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed nine of the following.

9x1=9

- i. The optimum pH necessary to remove collagen-bound _____
- ii. The most suitable temperature of bating is _____
- iii. The pH of lime pelt is usually _____
- iv. The fibers of the tanned leather must be lubricated with a coating of oils. (T/F)
- v. The duration of soaking depends on the nature of raw materials. (T/F)
- vi. Sodium sulphide is soluble in water. (T/F)
- vii. Pickling is a process of acidification of the delimed pelts. (T/F)
- viii. Oils, fats and waxes are water repellent substance. (T/F)
- ix. Pickling is done only in the case of
 - a) Chrome tanning
 - b) Vegetable tanning
 - c) Oil tanning
- x. The principal material used for vegetable tanning
 - a) Wattle
 - b) Chestnut
 - c) Both a & b
- xi. Write the pH of soaking process?
- xii. Write the name of first process for leather manufacturing?

SECTION-B

Q2. Attempt any five questions.

5x4=20

- a. Write a note on soaking process.
- b. What are the objects of liming?
- c. What do you mean by curing of hide and skins?
- d. What is the necessity of pickling process?
- e. Describe the flaying process of a buff calf.
- f. What are the advantages of wet-salting process?
- g. Write the main Chemicals used in pickling process.

SECTION-C

Q3. Attempt three questions.

3x7=21

- i. What do you mean by defects of hide and skins? Also describe the various defects found in raw hide and skins.
- ii. Describe the various methods and chemicals used for dyeing in leather manufacturing.
- iii. Write down the chrome tanning process for manufacturing cow calf leather.
- iv. What is finishing process of leather? Describe different process for leather finishing.
- v. What are the objects of shaving and splitting operations?

LEATHER MANUFACTURE-I
2nd Exam/LT/7525/1485/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- i. Corium is composed of _____ Which occur in bundle.
- ii. Goat skins are usually flayed in the form of _____
- iii. Sea salt has often been the cause of infection of _____ heat.
- iv. Lime water derives its power of loosens hair from its alkaline Character. (T/F)
- v. Bating may be done either in a paddle or in a drum. (T/F)
- vi. The bulk of the hides and skins today are chrome tanned. (T/F)
- vii. After degreasing the pelts are washed in brine solution. (T/F)
- viii. Hair is the typical epidermal structure and is entirely a product of the a) Flesh b) Epidermis c) corium
- ix. The flesh is removed in the a) Fleshing b) Shaving c) Both a & b
- x. The process of rooting out of hair from hides and skins is called
a) Unhairing b) Soaking c) Pickling
- xi. Which layer of the skin keep the body temperature constant?
- xii. Write the Chemical formula of slaked lime.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- a. What are the objects of Bating process?
- b. Describe the different methods of liming process.
- c. What do you mean by control of growth of bacteria in raw hide & skins?
- d. Explain with the diagram ticks marks defect found on buff calf skins.
- e. Explain the mechanical damages of raw hide and skins.
- f. What are the objects of depickling?
- g. What is the necessity of degreasing process?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- i. Describe the liming process with their objects and Chemicals used in it.
- ii. Explain with the diagram anatomical structure of buff hide.
- iii. Why Pickling process is a necessary process in Chrome tanned leather manufacturing?
- iv. What is Quality and How to achieve good quality in pre-tanning operations of leather manufacturing?
- v. What do you mean by deliming and fleshing?

FOOTWEAR TECHNOLOGY-I
2nd Exam/FLT/9113/1497/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- i. Leather has a high tensile strength and adequate stretch before it_____
- ii. Shoes are being made on a last which has a three dimensional_____
- iii. Wool is derived from the natural product of_____
- iv. The Stretch of an upper material is more important than strength. (T/F)
- v. Leather is a porous material and its fibers are woven. (T/F)
- vi. Silk material hardly used in manufacturing of shoes. (T/F)
- vii. Woven fabrics give the greatest strength, shape and stability. (T/F)
- viii. Which one of the following is an agricultural product
a) Natural Rubber b) Vulcanized NR c) Polyurethane
- ix. Fiber board is composed of a) Rubber b) Vegetable Matter c) Silk
- x. The thread is made by combing together several a) Straps b) Fiber c) Yarns
- xi. What is the main material for making leather board?
- xii. Write the full form of P.U.?

SECTION-B

Q2. Attempt any five questions.

5x4=20

- a. Write a note on polyurethane material.
- b. Write the main quality required for a good thread.
- c. What do you mean by elasticity and plasticity of leather?
- d. Write down any coated fabric material used for upper-making.
- e. What are the advantages of synthetic material used in footwear manufacturing?
- f. What do you mean by an adhesive?
- g. Draw a diagram of derby shoe.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- i. Describe the various adhesive used in footwear manufacturing.
- ii. What are advantages of leather material in shoe manufacturing?
- iii. Describe main desired characteristics of threads for sewing upper of a shoe.
- iv. Explain with the diagram parts of a sewing machine needle.
- v. What do you mean by footwear and their functions?

BASIC ELECTRICAL & ELECTRONICS ENGINEERING
2nd Exam/MECHATRONICS/4709/May'26
(For 2024 Batch Onwards)

Duration: 3Hrs.

M.Marks: 50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. The unit of capacitance is _____.
- b. Kirchhoff's Voltage Law states that the algebraic sum of voltages in a closed loop is ____.
- c. In a series circuit, the current remains _____ through all components,
- d. The number of cycles per second is called _____.
- e. A circuit used to convert AC to DC is called a _____.
- f. In CE configuration the input is applied between base and _____.
- g. A Zener diode is mainly used for voltage regulation. (T/F)
- h. RMS value of AC is greater than its maximum value. (T/F)
- i. The depletion region contains a large number of free charge carriers. (T/F)
- j. P-type semiconductor has more electrons as majority carriers. (T/F)
- k. CB configuration has high current gain compared to CE configuration. (T/F)
- l. A synchronous counter triggers all flip-flops simultaneously. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. An electric heater operates at 220 V and draws a current of 5 A. Find: a) Power consumed b) how much unit of energy consumed in 2 hours.
- ii. Define capacitance. Explain the factors affecting the capacitance of a capacitor.
- iii. State Kirchhoff's Current Law (KCL) and Kirchhoff's Voltage Law (KVL).
- iv. Define alternating current (AC). Explain the difference between AC and DC.
- v. Explain the working of a half-wave rectifier with neat and labelled diagram.
- vi. Explain PNP and NPN transistors with symbols.
- vii. Two resistors of $6\ \Omega$ and $3\ \Omega$ are connected in parallel across a 12 V supply. Calculate the equivalent resistance and total current.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain the construction and working principle of Wheatstone bridge with a neat diagram.
- b. Design and explain the working of Bridge Type Full Wave Rectifier with neat diagram.
- c. Draw and explain the input and output characteristics of a transistor in CE configuration.
- d. Define current gain of a transistor. Derive the relationship between α (alpha), β (beta) and γ (gamma).
- e. Explain Zener diode with its V-I characteristics and discuss how zener diode act as a voltage regulator with proper circuit diagram.

BASIC MECHANICAL ENGINEERING
2nd Exam/MECHATRONICS/4740/May'26
(For 2024 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- i. The SI unit of pressure is _____.
- ii. The First Law of Thermodynamics is also known as the Law of ____.
- iii. The efficiency of a heat engine is always less than _____.
- iv. The pulley which receives motion is called the _____ pulley.
- v. The rope drive is used when the distance between shafts is _____.
- vi. The SI unit of force is Newton. (T/F)
- vii. Heat always flows from a hotter body to a colder body naturally. (T/F)
- viii. Strain is an unitless quantity. (T/F)
- ix. Helical gears operate more smoothly than spur gears. (T/F)
- x. Which of the following is a thermodynamic property?
a) Pressure b) Mass c) Weight d) Volume
- xi. The ratio of ultimate stress to working stress is known as ____.
a) Young's modulus b) Poisson's ratio c) Factor of safety d) Stress-strain ratio
- xii. Which type of gear is used for transmitting power at an angle?
a) Spur gear b) Bevel gear c) Worm gear d) Helical gear

SECTION-B

Q2. Attempt any five questions.

5x4=20

- a. Explain the different types of engineering materials with examples.
- b. What is stress and strain? Explain with simple examples.
- c. State and explain the First Law of Thermodynamics.
- d. What is a belt drive? Explain its advantages and uses.
- e. What is a gear train? Explain its purpose in machines.
- f. Define a thermodynamic system and explain its types.
- g. What is a pulley? Explain how it helps in lifting loads.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- i. a) Define stress and strain with simple examples.
b) Explain the difference between ductile materials and brittle materials.
- ii. a) What is temperature? Explain the Celsius and Kelvin scales.
b) Write the First Law of Thermodynamics and explain it with a simple example.
- iii. Explain in detail the different types of gears and their applications.
- iv. Discuss in depth the law of conservation of energy and its real-life applications.
- v. What is the difference between parallel belt drive and cross belt drive?

CLINICAL MICROBIOLOGY-II
2nd Exam/MLT/7947/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- _____protects and give the shape to bacterial cell.
- In Staphylococci cocci are arranged in _____
- Full form of RTI is _____.
- Catalase positive bacteria is _____.
- Comma shaped bacteria is _____.
- AFB stain is used for demonstration of _____.
- Gram's stain is used for demonstration of gram-positive bacteria and gram-negative bacteria. (T/F)
- Streptococcus is gram negative cocci. (T/F)
- Muller- Hinton agar is used for Antibiotic sensitivity. (T/F)
- Tetanus is caused by Clostridium tetani. (T/F)
- Albert's stain staining is done for diagnosis of TB. (T/F)
- Kovac's reagent is used in Indole test. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- Write the morphology and pathogenicity of E. coli.
- Explain Albert's stain in detail.
- Name the causative organism of a) Tetanus b) Cholera c) Pneumonia d) Gas gangrene
- Explain bacterial growth curve with well labelled diagram.
- Write a note on UTI.
- Give the principle, procedure and observation of oxidase test.
- Give the principle and procedure of hanging drop technique.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- Describe the structure of bacterial cell with well labelled diagram.
- Explain the principle, procedure and observation of Coagulase and Catalase test.
- Explain the principle, procedure and observation of AFB staining.
- Describe the morphology, pathogenicity, culture characteristic and lab diagnosis of Staphylococci.
- Describe the principle, procedure and precautions for Disc diffusion method for antibiotic sensitivity test.

CLINICAL BIOCHEMISTRY-II
2nd Exam/MLT/7949/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. _____ method is used for determination of serum protein.
- b. BCG stands for _____
- c. Albumin is synthesized only in _____
- d. Decrease values of serum calcium are found in _____.
- e. The normal value of fasting glucose is _____.
- f. GTT stands for _____.
- g. Raised levels of sodium are called hyponatremia. (T/F)
- h. O-Toluidine method is used for uric acid estimation. (T/F)
- i. Cause of hyperglycemia is diabetes mellitus. (T/F)
- j. OCPC method is used for the estimation of calcium. (T/F)
- k. Serum urea and creatinine are important for the evaluation of renal function test. (T/F)
- l. Uric acid levels are raised in gout. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Write about glycated hemoglobin.
- ii. Explain the principle of folin –wu-method of glucose estimation.
- iii. Explain the procedure of calcium estimation.
- iv. Write short note on renal threshold
- v. Name the different methods for urea estimations and give its normal value.
- vi. Write function of electrolytes.
- vii. Write clinical significance of serum creatinine estimation

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain the principle and procedure of serum urea estimation.
- b. Explain principle and procedure of serum protein estimation.
- c. Explain the principle and procedure for estimation of sodium in our body.
- d. Explain the procedure for GTT.
- e. Explain principle and procedure for glucose estimation by glucose oxidase method.

HAEMATOLOGY-II
2nd Exam/MLT/7948/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

Note: Draw diagrams where necessary.

SECTION-A

Q1. Fill in the blanks any nine of the following.

9x1=9

- a. Haem consists of _____ & _____.
- b. _____ gives red color to the blood.
- c. _____ chamber is used for the counting of various types of blood cells.
- d. _____ reagent is used in oxyhaemoglobin method of Hb estimation.
- e. TLC stands for _____.
- f. Hemocytometry is defined as _____.
- g. The normal value of TLC in adults is _____.
- h. _____ fluid is used for dilution during RBC count.
- i. An increase in the number of leucocytes is called _____.
- j. A variation in the size of RBCs is called _____.
- k. An ideal blood film is _____ shaped.
- l. _____ is an automated cell counter.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Describe the various forms of haemoglobin.
- ii. Briefly describe the structure of haemoglobin.
- iii. Draw various types of white blood cells.
- iv. Briefly describe the clinical significance of TLC.
- v. Describe five abnormal changes in WBCs.
- vi. What are the advantages and disadvantages of automation in haematology?
- vii. Write a short note on the preparation of blood film.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain the principle, requirements, procedure for TLC.
- b. Describe the formation and degradation of haemoglobin.
- c. Briefly describe the principle, requirements and procedure for the counting of RBC by Neubauer counting chamber.
- d. Name the various methods used for haemoglobin estimation. Describe the principle and procedure of the Cyanmet haemoglobin method.
- e. Briefly describe the basic principle and working of Coulter counter.

ORGANIC CHEMISTRY
2nd Exam/MLT/7940/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Organic compounds are generally _____ in organic solvents.
- b. Functional group present in carboxylic acid is _____.
- c. _____ is an example of monosaccharides
- d. Lipids containing sulphate groups are called _____.
- e. _____ are polymers of amino acids.
- f. _____ and _____ are two types of nucleic acids.
- g. _____ are catalysts of biological systems.
- h. Deficiency of vitamin A can cause _____
- i. Members of a homologous series have different functional groups. (T/F)
- j. Cellulose is a polymer of glucose. (T/F)
- k. RNA stands for Ribonucleic acid. (T/F)
- l. Temperature does not affect the activity of an enzyme. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Give the IUPAC names of C_2H_5OH , CH_3COOH , $CH_3-O-C_2H_5$, $CH_3-CH=CH-CH_3$
- ii. Differentiate between organic and inorganic compounds.
- iii. Draw the structure of D-glucose and D-galactose.
- iv. What are lipids? Give their classification.
- v. Discuss the roles of proteins in our body.
- vi. Write a short note on DNA.
- vii. Give the differences between an enzyme and a chemical catalyst.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. What are vitamins? Discuss the various types of vitamins?
- b. What are carbohydrates? Discuss their classification and role.
- c. Discuss the various factors affecting the activity of enzymes.
- d. What are proteins? Give their classification.
- e. Write short notes on i) Phospholipids ii) Fatty acids.

S.B. Roll. No.....

ANATOMY AND PHYSIOLOGY-II
2nd Exam/MLT/7946/1407/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Fill in the blanks any nine of the following.

9x1=9

- a. Instrument used to measure BP is known as _____.
- b. _____ contain deoxygenated blood.
- c. Brain and spinal cord are the parts of _____ nervous system.
- d. Ovaries are part of _____ reproductive system.
- e. Insulin is secreted by _____.
- f. _____ divides the external ear from the middle ear.
- g. In Pulmonary circulation, blood circulates between heart and _____.
- h. Lower two chambers of heart are called _____.
- i. _____ is the largest part of the brain
- j. TSH stands for _____.
- k. ECG records electrical activity of _____.
- l. _____ are the chemical messengers secreted by endocrine system

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Compare skeletal and smooth muscles.
- ii. Write the difference between arteries and veins.
- iii. Write a note on circulation of blood (Systemic, Portal, or General).
- iv. Write a note on ovarian cycle
- v. Draw labelled diagram of eye.
- vi. Describe the hormones secreted by the pancreas.
- vii. Define blood pressure. What is the normal value? Name the instrument used.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Define endocrine glands? Name various hormones secreted in our body, also write their functions.
- b. Explain central nervous system
- c. Describe the anatomy of female reproductive system.
- d. What is ECG? Write its principle, types of leads used in it and its care and maintenance.
- e. Draw well labelled diagram of heart.

CLINICAL BIOCHEMISTRY-I
1st Exam/MLT/7929/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

Note: Draw diagrams wherever necessary.

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- Thymol is used for _____
- Water bath comes under _____.
- PFF stands for _____.
- _____ is measure of acidity or alkalinity of a solution.
- _____ is used to find out the mass of a substance.
- Temperature of Hot air oven is _____
- Chromic acid is a cleaning agent. (T/F)
- Colorimeter is used for the estimation of electrolytes. (T/F)
- Mixture of fluid suspension is separated by centrifuge. (T/F)
- Urinometer is used for the measured of specific gravity of urine. (T/F)
- Hot air oven comes under dry heat sterilization. (T/F)
- Substance used to prevent clotting of blood is called anticoagulant. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- Write short notes on preparation of serum.
- Write about scope & importance of biochemistry.
- Write in detail about analytical balance.
- Write short notes on pH meter.
- Describe the principle & working of water bath.
- Write the cleaning of new glassware.
- Write about different types of syringes and vacutainers used for blood collection.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- Define anticoagulants and their types with their merits and Demerits
- What are various methods for collection of blood?
- Describe in detail about the principle & working of colorimeter.
- Write in detail about biochemistry analyzers
- Describe in detail about the principle & working of centrifuge.

HAEMATOLOGY-I
1st Exam/MLT/7928/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Fill in the blanks any nine of the following.

9x1=9

- a. The study of blood and its components is called _____.
- b. The red color of blood is due to the presence of _____.
- c. The full form of RBCs is _____.
- d. The formation of platelets is called _____.
- e. The full form of RPM is _____.
- f. pH of blood is _____.
- g. _____ is a natural anticoagulant present in the blood.
- h. _____ is a type of Romanowsky stain.
- i. The site of haemopoiesis in adults is _____.
- j. A substance which prevents the clotting of blood is called _____.
- k. _____ is the most common disinfectant used during blood collection,
- l. Nucleus of monocyte is _____ shaped.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Briefly describe the principle and uses of centrifuge.
- ii. Draw a well labelled diagram showing different types of blood cells.
- iii. Write down the various safety precautions to be observed in the laboratory.
- iv. Briefly describe the procedure for capillary puncture.
- v. How will you prepare a thin blood smear? Write down the characteristics of a good blood film.
- vi. Define anticoagulants. Name the various anticoagulants used in haematology laboratory.
- vii. Explain the working and uses of hot air oven.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Describe the principle, working and uses of optical microscope.
- b. Describe the process of erythropoiesis in detail.
- c. Briefly describe requirements and procedure and precautions for venipuncture.
- d. Describe the principle of Romanowsky stains. Name the different types of Romanowsky stains. Describe the staining of a blood film with Leishman stain.
- e. Briefly describe the composition and functions of blood.

S.B. Roll. No.....

ANATOMY & PHYSIOLOGY-I
1st Exam/MLT/7926/2358/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

Note: Draw diagrams where necessary)

SECTION-A

Q1. Fill in the blanks any nine of the following.

9x1=9

- a. _____ is the structural and functional unit of human body.
- b. Anatomy is the study of _____
- c. A group of cells is called _____
- d. _____ is the largest organ of body.
- e. Skeletal muscle is also called as _____
- f. Vitamin _____ and _____ are water soluble.
- g. The union of two or more bones is called _____.
- h. _____ is the largest gland of human body.
- i. Night blindness occurs due to the deficiency of vitamin _____
- j. _____ acts as a voice box.
- k. BMR stands for _____
- l. The length of small intestine is _____.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Draw a well labelled diagram showing the structure of cell.
- ii. Give the classification of different types of epithelial tissue.
- iii. Draw a well labelled diagram showing the different parts of skin.
- iv. Draw a well labelled diagram showing the different parts of excretory system.
- v. Describe the functions of liver.
- vi. Define joint. Briefly describe the different types of joints.
- vii. Write down five functions of skin.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Define tissue. Describe the different types of muscular tissue.
- b. Describe the formation of urine in detail.
- c. Describe the different parts of digestive system along with a well labelled diagram.
- d. Define respiration. Briefly describe the different parts of respiratory system.
- e. Describe the gross structure and functions of the bone.

BASIC CHEMISTRY
1st Exam/MLT/7920/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. The process by which solid particles settle at bottom of the container is _____.
- b. _____ are the atoms of the different elements with same mass number.
- c. Temporary hardness of water can be removed by _____.
- d. Acids have pH _____ than 7.
- e. _____ is an example of aerosol.
- f. Beta rays consist of _____ charged particles.
- g. Sigma bond is formed by end-to-end overlap of orbitals. (T/F)
- h. Semi-permeable membrane is used in Reverse osmosis process. (T/F)
- i. Reduction involves loss of electrons. (T/F)
- j. Physical adsorption is reversible in nature. (T/F)
- k. Monochromatic light consists of several coloured wavelengths. (T/F)
- l. Acetic acid is a weak acid. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Differentiate between orbit and orbital.
- ii. What is hard water and soft water? Why water becomes hard?
- iii. What do you mean by ionic bond and covalent bond? Give examples.
- iv. Define a) pH and b) buffer solution.
- v. Differentiate between physical adsorption and chemical adsorption.
- vi. What is Beer-Lambert's Law?
- vii. Define a) Radioactive substances b) Half-life.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. i) Differentiate between molarity and molality. **4**
ii) Write a short note on distillation. **3**
- b. Describe the main points of Bohr's model of atom. **7**
- c. Write short notes on i) Tyndall effect **4**
ii) Brownian Motion **3**
- d. i) What are electrolytes and non-electrolytes? **4**
ii) Calculate the pH of 0.001 M HCl solution. **3**
- e. i) Discuss the applications of deionised water and double distilled water in medical field. **4**
ii) What should be the qualities of drinking water? **3**

CLINICAL MICROBIOLOGY-I
1st Exam/MLT/7927/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- Spores of bacteria used as sterilization control for hot air oven is named_____
- Temperature, time and pressure for sterilization in Autoclave is_____
- Insects that transmit infection are called as_____.
- Infections acquired from hospitals are called _____infections
- MacConkeyagar is a _____ type of medium.
- Human eye can see organisms up to _____size.
- 100X is called oil immersion lens. (T/F)
- Alcohol is produced by fermentation. (T/F)
- Obligate anaerobes grow in presence of oxygen. (T/F)
- 100% alcohol has better penetration power. (T/F)
- Temperature for pasteurization is below 100 degree Celsius. (T/F))
- Robertson cooked meat medium is an anaerobic medium. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- What is a culture medium? Explain selective and indicator medium with examples.
- Define disinfection; write the characteristics of an ideal disinfectant.
- What is various safety guidelines followed in Microbiology laboratory.
- What is dry heat sterilization? Explain various methods of dry heat sterilization.
- Differentiate Prokaryotes and Eukaryotes.
- What is the principal of electron microscope and dark field microscope?
- What is anaerobic culture? Write any two methods to prepare anaerobic culture.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- Draw well labelled diagram of compound microscope, explain its construction & working in detail.
- Define nosocomial infections; explain sources and methods of prevention and control of nosocomial infections.
- Explain various types of culture techniques.
- What is infection, Explain types of infection and modes of transmission of infection?
- What is sterilization? Explain construction and working of autoclave in detail.

FUNDAMENTALS OF COMMERCE
2nd Exam/MOP/8739/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Commerce helps to distribution of goods and _____.
- b. Barter system involves exchange of goods without using _____.
- c. Trade is a part of _____.
- d. Sole trader is an owner of a _____ business.
- e. _____ trade involves selling goods in large quantity.
- f. E-Commerce refers to buying and selling through the _____.
- g. _____ means buying from foreign country.
- h. Warehousing helps in storing goods for future use(T/F)
- i. Insurance is not based on any principles. (T/F)
- j. RBI is the Central Bank of India. (T/F)
- k. Bill of Lading used in air transport. (T/F)
- l. Consumer co-operative stores aim to earn maximum profit. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Explain the functions and merits of consumer co-operative stores.
- ii. State the features of Partnership Firm
- iii. Distinguish between Hire Purchase and Instalment System.
- iv. Briefly explain the types of Foreign Trade.
- v. Explain the meaning, need and functions of Warehousing.
- vi. Describe the process of applying Bank Loan.
- vii. Explain the meaning, functions and importance of Commercial Bank.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain the importance and functions of transport system in India. Also explain its various types of transport system in India.
- b. Describe the functions and scope of Reserve Bank of India.
- c. Discuss the concept of trades and aids to trades. Mention its features also.
- d. Explain the concept of Small Scale Retail Organizations and mention the merits of wholesale and retail trade.
- e. Describe the process of import and export and state the various documents used in Foreign Trade.

COMPUTER NETWORK AND INTERNET
2nd Exam/MOP/8734/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. A _____ is an electronic device that processes data into useful information.
- b. The brain of the computer is called the _____.
- c. _____ booting means restarting a system without turning off the power.
- d. 1 Gigabyte (GB) = _____ Megabytes (MB).
- e. The full form of WWW is _____.
- f. _____ is a search engine used to find information on the internet.
- g. The step-by-step procedure to solve a problem is called an _____.
- h. In a flowchart, a decision is shown using a _____ symbol.
- i. The software used to prepare presentations is called _____.
- j. _____ is a professional social media platform used for job networking.
- k. Booting is of two types. (T/F)
- l. 1 MB is equal to 10bytes (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. What is the function of CPU in a computer?
- ii. What is cache memory and why is it important?
- iii. List any three useful features of Gmail or G-Drive.
- iv. Differentiate between algorithm and flowchart.
- v. Mention three tools of digital marketing.
- vi. Differentiate between cold and warm booting.
- vii. Discuss advantages and disadvantages of using social media.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain the block diagram of a computer and describe its main components.
- b. Describe the process of creating and sending an email with an attachment.
- c. Write the steps involved in solving a problem using algorithm and flowchart.
- d. Explain the applications of Internet.
- e. Discuss MS Power point in detail.

S.B. Roll. No.....

STENOGRAPHY-II
2nd Exam/MOP/8732/2473/May'26
(For 2023 Batch Onwards)

Duration: 2Hrs.

M.Marks:20

SECTION-A

Q1. Fill in the blanks any four of the following.

4x1=4

- a. The final circle is always read _____.
- b. SHR is always written _____.
- c. ST loop may be employed finally to represent the Sound of _____.
- d. A small final hook adds _____ to curves.
- e. SHUN is represented by a _____ hook.
- f. A large loop represents _____.

SECTION-B

Q2. Attempt any four questions.

4x2=8

- i. Explain the f or v hook to straight strokes?
- ii. Explain the use of final hook to curve strokes?
- iii. What do you mean by transcription?
- iv. Explain the large circle sw with suitable examples
- v. Explain the ST loop cannot be employed?
- vi. Explain the short note on small circle's'?

SECTION-C

Q3. Attempt any two questions.

2x4=8

- a. What are the note-taking techniques in shorthand?
- b. Write the uses of final N & F hooks with Suitable examples.
- c. Explain the circle and loops to final hooks.

PRINCIPLES OF MANAGEMENT
2nd Exam/MOP/8716/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. _____ is the father of Scientific Management.
- b. _____ is a Structural Frame Work of duties and responsibilities
- c. Delegation of authority is an element of _____
- d. Recruitment is the process of _____
- e. Principles of Management can be applied to the _____ organizations.
- f. Authorities flow vertically in _____ organizations.
- g. Planning is a _____ function.
- h. Management is needed at all level (T/F)
- i. Written communication is suitable for conveying short messages (T/F)
- j. Controlling is a continuous function. (T/F)
- k. Divisions of work promote specialization. (T/F)
- l. Communication between superior and subordinate is horizontal communication. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. What are the features of Control?
- ii. Write note on delegation of authority.
- iii. What are the qualities of a good leader?
- iv. What is line organization?
- v. Write unity of command and discipline as Principle of Management.
- vi. What is staffing function of Management?
- vii. Explain on the Job and Off the Job training.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Define Management. What are its features?
- b. What is communication? What are its different types?
- c. What is planning? What is the importance of Planning?
- d. What is direction function of Management? What are its elements?
- e. What are the steps in Control Process?

OFFICE MANAGEMENT
1st Exam/MOP/8727/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. The arranging and storing information in a systematic way is called _____
- b. Centralisation means _____
- c. A _____ is a printed piece of paper which provides space for entering the information.
- d. _____ filing is a combination of two filing systems.
- e. _____ are helpful for future reference.
- f. Accounting records relates to letters, notices and memorandum etc. (T/F)
- g. Under chronological filing, files are kept day or date wise. (T/F)
- h. Automation decreases the speed of office work. (T/F)
- i. Paper, pen and pencil are stationary items used in office. (T/F)
- j. Unwanted sound in the office or outside the office is noise. (T/F)
- k. Poor ventilation causes suffocation. (T/F)
- l. Private offices are used to do the work of confidential nature. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Write the importance of an office.
- ii. Define air conditioning and ventilation?
- iii. State the essentials/characteristics of good filing system.
- iv. Explain different types of records.
- v. Explain various types of office forms.
- vi. Explain E- office?
- vii. Name the different stationary items used in an office.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Define office. Explain the functions of an office in detail.
- b. What do you mean by filing? Explain the classification of filing in detail.
- c. Write detail note on office forms and GeM.
- d. What do you know about the term office records? Give significance of office records.
- e. Explain the term office automation. Give merits and demerits.

STENOGRAPHY-I
1st Exam/MOP/8728/May'26
(For 2023 Batch Onwards)

Duration: 2Hrs.

M.Marks:20

SECTION-A

Q1. Fill in the blanks any four of the following.

4x1=4

- a. Total number of strokes in English shorthand all _____ only.
- b. Word form is written _____ and vowel sign later.
- c. The short vowels are represented by _____.
- d. There are _____ places of a stroke where vowel sign is placed.
- e. The sign of diphthong i and io are written in the _____ place.
- f. Finally _____ form is used of 'R' if a vowel follows.

SECTION-B

Q2. Attempt any four questions.

4x2=8

- i. Differentiate between chay and Ray.
- ii. What do you know about preceding vowels?
- iii. What do you know about the logograms and grammalogues?
- iv. Write the name of consonants and their characters.
- v. Write is phraseography.
- vi. What do you know about the alternate form of 'R'?

SECTION-C

Q3. Attempt any two questions.

2x4=8

- a. Write a detailed note on vowels? Explain their signs and placement with examples.
- b. Explain the position of outlines.
- c. What should be the qualities of a good stenographer?

APPLIED PHYSICS
1st Exam/T&D/4902/May'26
(For 2024 Batch Onwards)

Duration: 3Hrs.

M.Marks:100

SECTION-A

Q1. a) Fill in the blanks.

20x1=20

- i. SI unit of Mass is _____.
- ii. Force is a _____ quantity.
- iii. Rolling friction is _____ than sliding friction.
- iv. Heat flows from a body at _____ temperature to a body at _____ temperature.
- v. The device used to measure voltage is _____.
- vi. Sound waves are a _____ wave.
- vii. Like charges are _____ each other.
- viii. _____ mirror is used as a rear-view mirror in vehicles.
- ix. Dimensional formula of Pressure is _____.
- x. Ruby laser is a _____ level laser.

b) State True or False.

- xi. Laser is based on the principle of population inversion.
- xii. Kirchhoff's first law is based on the law of conservation of energy.
- xiii. Light is a transverse wave.
- xiv. Farad is the unit of capacitance.
- xv. If a light and a heavy body have equal kinetic energy, the lighter body has more momentum.

c) Multiple Choice questions.

- xvi. Which of the following is not a system of units? a) MKS b) SI c) CGS d) GVH
- xvii. The velocity of light is maximum in : a) water b) air c) steel d) vacuum
- xviii. Pressure is defined as force per unit _____. a) Mass b) Length c) Area d) Volume
- xix. Rate of change of momentum is directly proportional to:
a) force b) displacement c) acceleration d) velocity
- xx. Optical fibre works on the principle of _____.
a) Refraction b) Reflection c) Total internal reflection d) Diffraction

SECTION-B

Q2. Attempt any eight questions.

8x5=40

- a. Convert one newton of force into dyne by using dimensional analysis.
- b. What do you mean by banking of roads? What is the need of banking of roads?
- c. Given $\vec{A} = 5\hat{i} + 7\hat{j} - 3\hat{k}$, $\vec{B} = 2\hat{i} + 2\hat{j} + 8\hat{k}$, prove that $\vec{A}$ and $\vec{B}$ are perpendicular to each other.
- d. Differentiate between heat and temperature.
- e. Convert $100^\circ F$ into centigrade scale and Kelvin scale.
- f. Define the terms of mirror: Principal Focus, Radius of Curvature, Pole and Centre of Curvature.
- g. Give the difference between scalar and vector quantities with examples.
- h. Write down the uses of spherical mirrors.
- i. Write the applications of LASER.
- j. What will be the velocity of a body having mass 1 kg and a kinetic energy 1 J?

SECTION-C

Q3. Attempt any four questions.

4x10=40

- i. State and prove principle of homogeneity. Check the accuracy of the relation: $v^2 - u^2 = 2aS$.
- ii. Define centripetal force and centrifugal force. Explain the applications of them.

S.B. Roll. No.....

- iii. What do mean by conservation of energy? Prove that mechanical energy of a freely falling body remains constant.
- iv. What do you mean by coefficients of linear expansion (α), superficial expansion (β) and volumetric expansion (γ)? Obtain the relationship between them.
- v. What do you mean by electromagnetic induction? State the laws of electromagnetic induction.

Previous QP May 2026

ENGINEERING DRAWING
1st Exam/T&D/4904/May'26
(For 2024 Batch Onwards)

Duration: 4Hrs.

M.Marks:100

Note: Assume any missing/unreadable dimension with a suitable dimension.

SECTION-A

Q1. Do as directed.

10x2=20

- a. A detailed drawing is one which describes a single part or several parts individually. (T/F)
- b. Front view is also known as _____.
- c. A diameter is denoted by _____.
- d. The Hidden line is used to show _____.
- e. Rivets have only two main parts. (T/F)
- f. In double start threads, pitch is equal to _____ of lead.
- g. A screw has threads to full length. (T/F)
- h. The height of hexagonal nut is equal to _____.
- i. Knuckle joints are used in _____ links.
- j. Shaft couplings are permanent in nature. (T/F)

SECTION-B

Q2. Attempt any four questions.

4x10=40

- i. Print free hand of 10mm height in capital up-right letters "WORK IS WORSHIP"
- ii. Draw the symbols representing the following materials:-COPPER, LEAD, BRASS, WOOD.
- iii. What is difference between First angle projection and third angle projection?
- iv. Construct a scale of 1:500 to show meters and long enough to measure upto 75 meters. Measure a distance of 65 meters.
- v. Draw in detail (free hand): Left hand and Right hand threads.
- vi. Draw three views of a hexagonal headed bolt of 24 mm diameter and 80 mm long with a hexagonal nut.
- vii. Draw the two orthographic views of Wood-ruff key.

SECTION-C

Q3. Attempt any two questions.

2x20=40

- a. A line AB, 80 mm long has its end B 30mm away from HP and 40mm away from VP. The line is parallel to both the principle planes. Draw its projections in all the four quadrants.
- b. Figure (a) shows the pictorial view of an object. Draw its front, top and side view in 1st angle projection.(all dimensions in mm)
- c. Draw the detail drawing from the pictorial view of a Halving Joint shown in Fig.(b)

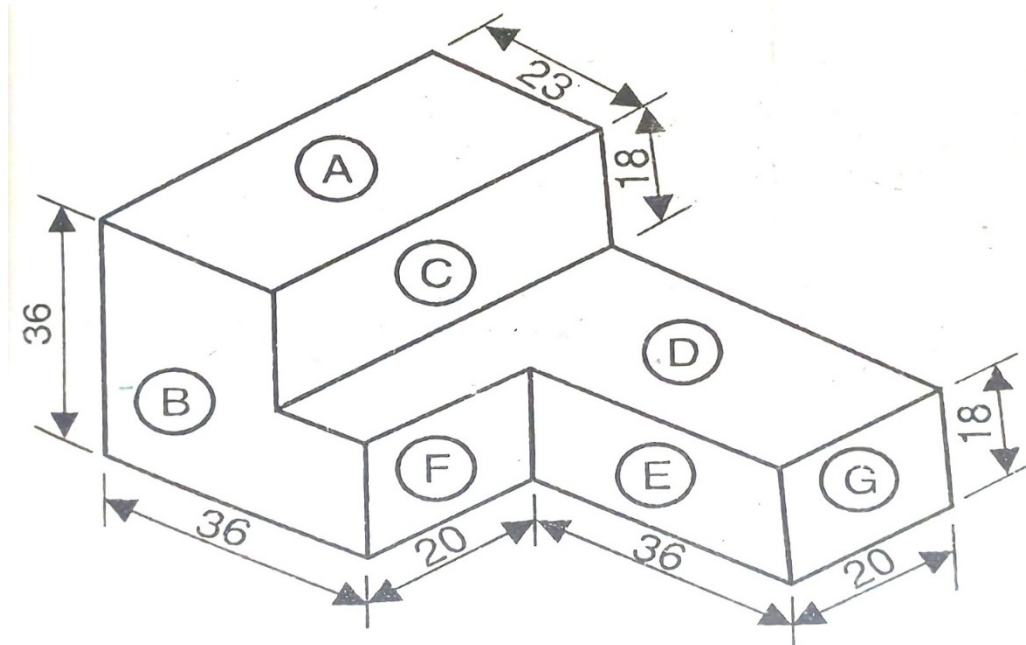


Figure (a)

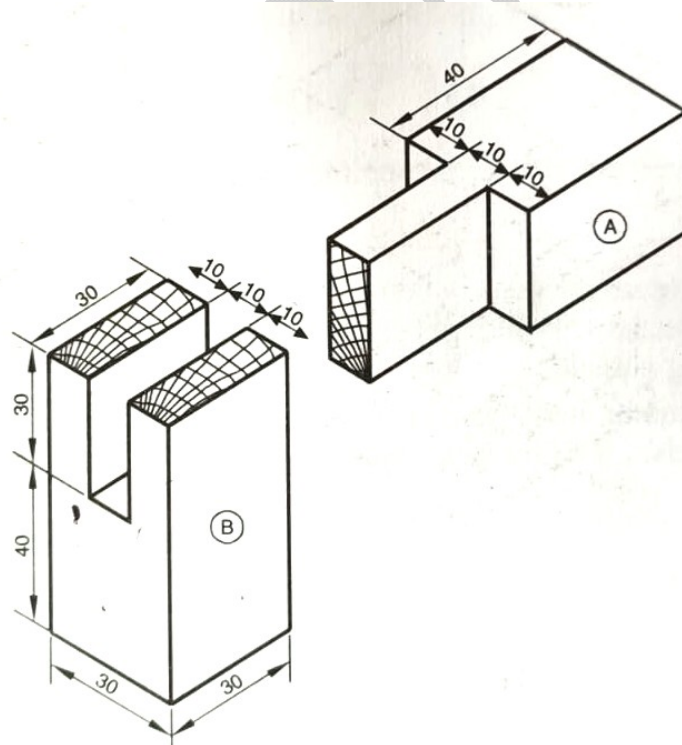


Figure (b)

WORKSHOP TECHNOLOGY FOR TOOL & DIE-I
1st Exam/T&D/4903/May'26
(For 2024 Batch Onwards)

Duration: 3Hrs.

M.Marks:100

SECTION-A

Q1. Fill in the blanks.

10x2=20

- a. In horizontal milling machine, the cutter is mounted on _____
- b. The least count of vernier caliper is _____
- c. The ram of the shaper moves in _____ motion
- d. Boring tool is a _____ point cutting tool.
- e. _____ number of angles are present in single point cutting tool
- f. _____ Gauge is used to check the gap between two mating parts.
- g. Acetylene gas is stored in cylinder in the form of _____.
- h. Tool used for _____ operation is called a turning tool.
- i. The usual ratio of time taken in cutting to return stroke is _____
- j. _____ is the operation of finishing and sizing a hole which has been previously drilled or bored.

SECTION-B

Q2. Attempt any five questions.

5x8=40

- i. Explain Brazing and Soldering Process.
- ii. Draw sketch diagram of single point cutting tool.
- iii. Difference between shaper & planner machine.
- iv. Explain feed, depth of cut and cutting speed applied to a lathe machine.
- v. Write a short note on pedestal grinder. Describe its parts and uses.
- vi. What are the various safety precautions to be followed in workshop?
- vii. Name various measuring instrument used in workshop.

SECTION-C

Q3. Attempt any two questions.

2x20=40

- a. Explain principal of turning. Draw sketch diagram of Lathe machine and explain the parts of Lathe machine.
- b. Define drilling. What are the operations performed on drill machine. Explain any two types of drilling machine with neat sketch?
- c. Difference between Up and Down milling with neat sketch diagram?

APPLIED MATHEMATICS
1st Exam/T&D/4901/May'26
(For 2024 Batch Onwards)

Duration: 3Hrs.

M.Marks:100

Note: Attempt any five questions, selecting at least two from each section. All questions carry equal marks.

5x20=100

SECTION-AQ1. a) Resolve into partial fraction $\frac{2x+1}{(x+1)(x-2)(x-3)}$

b) The sum of first three terms of a G.P. is 7 and the sum of their squares is 21. Determine the first Five terms of the GP.

Q2. a) Find n if $2n + 1_{pn} : 2n + 1_{pn-1} = 22 : 7$ b) Find the middle terms in the binomial expression $(\frac{2x^2}{3} + \frac{3}{2x^2})^{10}$ Q3. a) Find equation of two straight lines through the point (2,-1) making an angle 45° with the line $6x+5y-1=0$.b) Prove that $\cos 10^\circ \cos 30^\circ \cos 50^\circ \cos 70^\circ = \frac{3}{16}$

Q4. a) Find the equation of circle which passes through the points (0,0), (2,0), and (0,4). Find the coordinates of its centre and its radius.

b) Find the co-ordinates of the foot of the perpendicular from the point (2,3) on the line $y=3x+4$ **SECTION-B**Q5. a) Differential the following : $y = \frac{\sin x}{\log x + e^x}$ b) If $y = (\sin^{-1} x)^2$, prove that $(1 - x^2) \frac{d^2x}{dx^2} - x \frac{dy}{dx} = 2$ Q6. a) Evaluate $\int \frac{(x^2+4)}{(x^2+1)(x^2+3)} dx$ b) Integrate $\int_0^{\pi/2} \frac{dx}{1+\cot x}$ Q7. a) Calculate by Simpson's rule an approximate value of $\int_{-3}^3 x^6 dx$ by taking seven equidistant ordinates.b) Evaluate $\int \frac{3x+4}{2x^2+5x-3} dx$ Q8. a) Solve the differential equation $\frac{dy}{dx} = (4x + y + 1)^2$ b) Solve the differential equation $\frac{dy}{dx} + y = \cos x$

ENGLISH & COMMUNICATION SKILLS
1st Exam/T&D/4900/May'26
(For 2024 Batch Onwards)

Duration: 3Hrs.

M.Marks:100

SECTION-A

Q1. a) Fill in the blanks.

10x2=20

- i. Give the antonym of the word "morning" _____.
- ii. "He said to me, 'I am happy.'" → Change into indirect speech: _____.
- iii. The plural of Player is _____.
- iv. A place where wild animals are kept _____. (Give one word substitution)
- v. Chandigarh is _____ capital of Punjab. (Insert suitable article)

b) Choose the correct option.

- vi. The synonym of fragments is: a) broken into smaller pieces b) together c) joined d) assemble
- vii. "Daffodils" is written by:
a) R.K. Narayan b) Rabindranath Tagore c) William Wordsworth d) Robert Frost
- viii. Which is not a barrier to communication?
a) Noise b) Attitude c) Clear language d) Cultural differences
- ix. A press release is mainly meant for: a) Newspapers b) Exams c) Diaries d) Poetry
- x. The correct spelling is: a) Flower b) Flouer c) Fleor d) Floru

SECTION-B

Q2. Attempt following questions.

8x1=8

- a. What did Johnsy suffer from _____? (Cancer/Jaundice/Pneumonia)
- b. Radha was a Muslim girl. (True/False)
- c. Write the meaning of **Leisure** in English.
- d. After how many hours, the mother found recovery?
- e. What does a lover do in third stage of life?
- f. In which year, the poem "Success" was published?
- g. What does the poet mean by 'Where the mind is without free'?
- h. Why are fears and doubts mankind's greatest enemies?

Q3. Write a short note on *written and oral Communication* and which is better among oral and written? 8

Q4. Correct the following sentences: -

2x2=4

- a. He is my older brother.
- b. Mathematics are my favourite subject.

Q5. Change the following into passive voice:

2x2=4

- i. Smith manages the house.
- ii. The officer has cleared the file.

Q6. Write a short note on *Speaking Skills* and their importance in communication.

8

Q7. Explain the summary of any one of the following poems.

8

"Success" by William Wordsworth OR "Stopping by Woods on a Snowy Evening" by Robert Frost

SECTION-C

Attempt any two questions, each carries 20 marks.

2x20=40

Q8. Write a letter to Registrar, Punjab State Technical Board requesting him to change the date sheet of the semester exam.

Q9. Write a paragraph of 100-120 words in any one of the following topics:

- a. Technical Education
- b. Junk Food and its Harmful Effects
- c. Value of Discipline in Student Life

Q10. Write the character sketch of **Sue** as seen in the chapter, "The Last Leaf". Do you think she was a true friend?

Q11. a) Draft a notice of a sports kit bag lost in the stadium.

b) Write down the precis for the following passage.

The word discipline comes from the word 'disciple'. A disciple is a learner. Discipline means learning to obey rules. A child needs discipline. He has first to learn to obey his parents. They know what is best for him. There must be discipline in a school. School boys and girls have to learn to obey the school rules. They will learn nothing without discipline. Even in games there must be discipline. A football team must obey its captain and the rules of the game. There must be strict discipline in the army. If the soldiers do as they like and do not obey orders, they will lose the battle. Above all, we must learn self-discipline. We must control our temper and our self-desires. We must make ourselves do what is right.

SPINNING TECHNOLOGY-I
2nd Exam/TT/5007/2458/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Ring frame is the final machine in _____.
- b. Roving has _____
- c. Draw frame improves _____.
- d. The flats in carding move _____ over the cylinder.
- e. Carding is called the heart of spinning. (T/F)
- f. Lap preparation is done in Scutcher machine. (T/F)
- g. Roller ginning uses rollers for fibre separation. (T/F)
- h. Piano feed motion is used in draw frame. (T/F)
- i. What is the first section of spinning mill?
- j. Which machine is used for bale opening?
- k. What part of ring frame is responsible for twist insertion?
- l. What is the feed material for comber machine?

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Explain the objectives of ginning in spinning preparation.
- ii. Discuss the importance of blending in achieving uniform yarn.
- iii. Explain the function of doffer in carding.
- iv. Explain the objectives of draw frame machine.
- v. Compare comber with draw frame.
- vi. Write the objectives of ring frame machine.
- vii. Discuss the role of spindle in ring frame.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain piano type feed regulating motion.
- b. Describe the passage of material through draw frame.
- c. Explain the functions of different parts of the carding machine.
- d. Explain the objectives of ginning and describe the working of Saw ginning machine.
- e. Explain why ring frame is called the final machine in spinning.

WEAVING TECHNOLOGY-I
2nd Exam/TT/5005/2457/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. A _____ loom is manually operated.
- b. The three primary motions of weaving are shedding, picking, and _____.
- c. In tappet shedding, the heald frames are moved by _____.
- d. The shuttle travels through the _____ from one box to another.
- e. Excessive picking intensity may cause the shuttle to _____ out.
- f. The period during which the heald remains at rest is called _____.
- g. The shed is formed by lowering all warp threads together. (T/F)
- h. Shuttle trapping improves fabric quality. (T/F)
- i. Good picking requires proper shuttle control and timing. (T/F)
- j. The reed is fixed to the sley. (T/F)
- k. Tappet shedding is suitable for simple weave designs. (T/F)
- l. Shedding is the process of inserting the weft yarn. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Differentiate between handloom and power loom.
- ii. What is picking? Explain its importance in weaving.
- iii. What is dent in reed? Also define the role of reed during weaving.
- iv. Define shuttle trapping and explain its causes.
- v. What is heald reversing motion during weaving?
- vi. Discuss the importance of beating-up motion in fabric formation.
- vii. Compare positive and negative shedding mechanisms.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain the beating up mechanism in detail.
- b. Explain the methods of varying the intensity of picking. Discuss their importance in loom performance and fabric quality.
- c. Explain the passage of warp through the loom with a neat labeled diagram and discuss the importance of each part involved.
- d. Compare over picking and under picking in terms of construction and performance.
- e. Define shedding. Explain the types of shedding and discuss their merits and demerits.

FABRIC STRUCTURE-I
2nd Exam/TT/5006/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Woven fabrics are produced by interlacing _____ and _____ yarns at right angles.
- b. Plain weave has a repeat of _____ ends and _____ picks.
- c. Peg plan indicates the _____ order of shafts during weaving.
- d. Tussar is a type of _____ silk.
- e. Shuttle insert _____ through the divided warps on loom.
- f. Weave designs are constructed on _____ paper.
- g. Warp and weft yarns intersect each other at right angles in woven fabrics. (T/F)
- h. Plain weave has the maximum number of interlacements. (T/F)
- i. Regular twill has equal movement in warp and weft directions. (T/F)
- j. Picks refer to the number of warp yarns in a design. (T/F)
- k. Woven fabrics are formed by interlooping yarns. (T/F)
- l. Knitted fabrics have better elasticity than woven fabrics. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Write a note on graph paper.
- ii. Make a design of weft rib.
- iii. Write short notes on the quality particulars of poplin and long cloth (Latha).
- iv. Define draft, lifting plan (peg plan), and denting plan. Explain their importance in weaving.
- v. Define warp, weft, ends, picks, repeat, and design in fabric construction.
- vi. Make a design of matt weave.
- vii. What are the important characteristics of knitted fabric?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Discuss the important features and construction method of plain weave on graph paper. Explain its derivatives such as rib, matt (basket) with diagrams.
- b. Describe the construction and features of pointed, broken, and rearranged twill weaves. How do these derivatives affect fabric appearance and properties?
- c. Define fabric structure. Explain woven fabric structure in detail and compare it with knitted and non-woven fabric structures with suitable examples.
- d. Differentiate between regular and irregular twills. Explain their construction method with examples and diagrams.
- e. Compare plain and twill structure of fabrics with design.

TEXTILE FIBRE SCIENCE-I
2nd Exam/TT/5001/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Define Ginning.
- b. What is moisture regain of Cotton?
- c. Spinning is the process of conversion of fibre into Yarn. (T/F)
- d. Name any two natural fibres.
- e. Wool fibre is having scales in their Structure. (T/F)
- f. Define Fineness of fibre.
- g. Define Moisture content.
- h. Linen is synthetic Fibre (T/F)
- i. Moisture regain of Wool is _____
- j. Wool fibre is having Felting Properties. (T/F)
- k. Jute is plant fibre. (T/F)
- l. Name the natural fibre high in lustre.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. What are the primary fibre properties?
- ii. Differentiate between woollen and worsted yarn?
- iii. Discuss the physical properties and end use of Jute
- iv. Write short note on types of Yarn Twist
- v. Draw Morphological Structure of Cotton with neat diagram?
- vi. Write short note on Silk Throwing and Degumming?
- vii. How Linen fibre is different from cotton fibre?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Discuss the physical and chemical properties of Wool fiber.
- b. How will you classify textile fibre?
- c. Explain in detail the manufacturing process of Cotton fiber by Ring Spinning.
- d. Explain Morphological Structure of Wool with neat diagram.
- e. Describe the steps involved in production of silk yarn.

BASICS OF TEXTILE TECHNOLOGY
1st Exam/TT/5014/May'26
(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Picking is the process of inserting _____.
- b. Warping prepares yarns for _____.
- c. The process of adding color to fabric is called _____.
- d. Polyester is a _____ fibre.
- e. Knitted fabrics are more elastic than woven fabrics. (T/F)
- f. Spinning converts fibres into yarn. (T/F)
- g. Count system is a direct system of yarn numbering. (T/F)
- h. Fabric can only be made by weaving. (T/F)
- i. Define fabric.
- j. What is finishing?
- k. What do you mean by non-woven fabric?
- l. Give one example of knitted fabric.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Define twist in yarn. What are its types?
- ii. What are different types of fabrics with examples?
- iii. Describe the differences between yarn and fabric.
- iv. What is printing?
- v. Write down various end uses of non woven fabrics.
- vi. What are natural and synthetic fibres?
- vii. What is loom?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Explain the classification of fibres with examples.
- b. Describe the basic motions of a loom with neat sketches.
- c. Explain the process flow of garment manufacturing.
- d. Explain yarn numbering systems with examples.
- e. What is the difference between fabric and garment?

FUNDAMENTAL CHEMISTRY

1st Exam/TT/5012/May'26

(For 2023 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Silk is natural fibre. (T/F)
- b. What is Soft water?
- c. What is the Common name HCl?
- d. Carbonization is done on which substrate?
- e. What are acids?
- f. We do scouring to remove _____ from raw substrate.
- g. Polyester is a _____ fibre.
- h. What are bleaching agents?
- i. What is TDS?
- j. What is Distilled water?
- k. What are Carriers?
- l. Ph scale of drinking water is _____

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Write down difference between NaOH and HCl?
- ii. What is hard water?
- iii. Write down Scouring agents.
- iv. What is Scouring?
- v. What are impurities in raw cotton?
- vi. Write down Bleaching chemicals.
- vii. What is carbonization?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. What are Dyes? How Dyeing is different from Printing?
- b. How to convert hard water to soft water?
- c. What are Binders? How Binders help in Printing?
- d. What is Mercerization? Explain in details.
- e. What are Bleaching agents?

YARN FORMATION TECHNIQUE
2nd Exam/TD/8644/May'26
(For 2024 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. Blow room is used for _____ of fibers.
- b. Speed frame machine is used before _____ machine.
- c. Evenness of sliver is done in _____ machine.
- d. _____ Yarns are soft twisted.
- e. _____ Twist is clockwise.
- f. Ring frame machine makes fibres parallel. (T/F)
- g. Fibres are mixed in a fix ratio in blending. (T/F)
- h. In tyre cord yarns medium twisted yarns are used. (T/F)
- i. Slivers are blended in carding machine. (T/F)
- j. In woolen spinning gill boxes give orientations to fibres. (T/F)
- k. Which machine produces roving?
- l. Write the type of twist.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Write about the mixing of fibers.
- ii. Make a line diagram of draw frame showing its parts
- iii. Write the objects of carding and blow room.
- iv. Define the twist on twist and weft on twist.
- v. Explain the type of yarn packages.
- vi. Write the objects of winding machine.
- vii. Write about lusture yarn and bulk yarns.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Make a flow chart of cotton spinning line.
- b. Explain in detail about mixing and blending.
- c. Explain the type of twists for single and double yarn, also write its uses.
- d. Explain carpet yarn, tyre cord yarn.
- e. Explain about opening and cleaning.

STRUCTURAL FABRIC DESIGN-II
2nd Exam/TD/8663/May'26
(For 2024 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. More warp threads are there at _____ than body of cloth
- b. Satin weave need minimum _____ heald frames.
- c. Beat up is done by _____
- d. Picking is to insert _____ thread through shed.
- e. Temple hold the cloth from _____ sides on loom.
- f. Satin and sateen weaves need counting _____ for construction.
- g. Diamond weaves needs point draft. (T/F)
- h. Crepe weave is similar to sateen weave. (T/F)
- i. In Satin, counting number for 8 end satin is 4. (T/F)
- j. Draft of Brighton honey comb is straight. (T/F)
- k. Warp Beam is fitted at the back of loom. (T/F)
- l. Reed is comb like structure. (T/F)

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Make irregular satin in 10x10 repeat sizes.
- ii. Construct a distorted thread effect on graph.
- iii. Make a crepe weave in 10x10 repeat
- iv. Make a huck a back in 10x10 repeat
- v. Make a Mock Leno design in 10x10 repeat with draft and peg plan.
- vi. Make any Diamond design in 12x12 repeat sizes.
- vii. What are one and one wefting and two and two wefting?

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Compare regular and irregular satin and sateen.
- b. Explain types of Welt and Pique designs on graph with cross section view.
- c. Make Extra warp and extra weft design on graph.
- d. Explain varieties of Bedford cord designs.
- e. Make any Brighton honeycomb weave.

TEXTILE FIBER PROCESS
1st Exam/TD/0122/May'26
(For 2024 Batch Onwards)

Duration: 3Hrs.

M.Marks:50

SECTION-A

Q1. Do as directed any nine of the following.

9x1=9

- a. _____ are building blocks of fabric/ yarn.
- b. Fibre decides properties of _____.
- c. _____ fibre has more thermal resistance.
- d. Silk is a _____ fibre
- e. Bamboo is _____ fibre.
- f. Cotton grows in forests. (T/F)
- g. Silk was originated in china. (T/F)
- h. Wool is a man made fibre. (T/F)
- i. Cotton smells like burning papers while removing from flame. (T/F)
- j. Nylon dissolves in 40 % acetic acid. (T/F)
- k. Write two vegetable fibers.
- l. Wool is obtained from which animal.

SECTION-B

Q2. Attempt any five questions.

5x4=20

- i. Write a note on vegetable fibers.
- ii. Write properties of silk fiber.
- iii. Write about chemical identification of textile fibers.
- iv. Write about the source and production of cotton.
- v. How will you identify wool fiber using different methods?
- vi. Write the properties of polyester fiber.
- vii. Write about protein fibers.

SECTION-C

Q3. Attempt any three questions.

3x7=21

- a. Write about the physical identification and burning test of natural fibers.
- b. Write the production of viscose rayon fibers.
- c. Make a chart of classification of textile fibers.
- d. How do moisture affect fiber properties.
- e. Write about the grading of wool.