Government Institute of Printing Technology, Mumbai

Odd term end theory examination October 2024

Course: Communication Skills   Code: M102

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1. Answer the following questions. (Any 5)   **20**
a. Why is Feedback considered as the final and important link in the communication chain?
b. Mention some of the obstacles to good listening and suggest how they can be overcome.
c. "you may buy from me in your own language, but sell to me in mine". Explain in the light of 'You Attitude' in professional writing.
d. Why is the written form of communication important for business?
e. What are the qualities of good paragraph?
f. Write a note on the 7C's of effective communication.
g. What problems occur with written communication?

Q2   Answer the following questions. (Any 2)   **12**
a. Write a note on the advantages of oral communication.
b. Speech writing: On the occasion of Children's Day, you have got on opportunity to deliver a speech on the topic. My family - My Greatest Strength. Prepare a speech in about 100 words on this topic using the following points: The best advice of your parents, Qualities of family members that inspire you, Family members as guide / friend / teachers / critic, Family support in difficult situation, Prayer to god for your family.
c. A committee of professors is appointed by the principal of a college to submit a report on the causes of poor attendance in lectures and tutorial. Draft the committee's report outlining the causes and also recommending measures to improve the situation.

Q3   Answer the following questions. (Any 2)   **12**
a. What are the different ways in which a businessman can show courtesy while attending to his correspondence.
b. Write a paragraph about the career you are considering. Explain why you are choosing that career path and how you plan to accomplish your goals.
c. Imagine you have to interview an old woman who lives in an 'old age home'. Write a set of 12-15 questions for the interview. You may take help of the following points: Her family, reason for being in an old age home, her feeling and expectations, her advice, etc.

Q4   Answer the following questions. (Any 2)   **12**
a. Mention the types of non-verbal communication and describe how they can be used effectively.
b. Assume yourself to be Satyvan Vyas, a student of Y.S college, Wadala, Mumbai and write a complaint regarding the poor quality of food and service in the cafeteria of your college. Also suggest changes that would help in maintaining the cafeteria in a better manner. Use the following points: Uncovered food causing diseases. Unemptied garbage cans. Rude cafeteria staff. Variety in the menu.
c. You are Sameer, the secretary of the English club of your college. You plan to organise an educational tour to Goa during the summer vacation. Draft a notice in about 50 words for your college notice board, mentioning the schedule of the tour, expenses to be incurred, a permission letter from the parents and the last date for giving names, etc.

P.t.o

Q5 Answer the following questions. (Any 3)   12

a. Read the following extract and complete the notes with the help of the clues provided.

Vishnu Vaman Shirwadkar, popularly known by his pet name, Kusumagraj was an eminent Marathi poet, playwright, novelist and a short story writer. He was a great humanist. He was born on 27 February 1912 in Pune and died on 10 March 1999, at the age of 87 in Nashik. He wrote 14 volumes of poems, 3 novels, 8 volumes of short stories, 7 volumes of essays, 18 plays and 6 one act plays. He was the recipient of several state awards and national awards including the 1974 Sahitya Akademi Award in Marathi for his play Natasamart, Padma Bhushan 1991 and Dnyanpith award (1987).

He also remained chairperson of the Akhil Bhartiya Marathi Sahitya Sammelan in1989. He pursued his primary eduction in Pimpalgaon and high school education in Nashik. He founded the Lokhitwadi mandal (organization for social good). He also manifested his talent by translating great plays written by Oscar Wilde, Moliere and Shakespere to Marathi.

Vishnu Vaman Shirwadkar (1912 - ____)
Pet Name-_____
Hometown -_____
Awards - Sahitya Akademi, _____,
Place of death - _____
Play -_____
Language of his works-_____
Organization for social good -_____

b. Write an essay on any one of the following
    i)   The effect of Covid 19 lockdown on social life
    ii) A friend in need is a friend indeed.
    iii) If I were the Principal of my college.

c. Given below is a table showing a survey by the students of your college. Write a paragraph using the given information in about 120 words.

Sr. No	Causes of Low grades in exam	Percentage
1	Bunking lectures	50%
2	Language barrier & Lack of proper study strategy	30%
3	Lack of concentration during lectures	15%
4	Exam fear and lack of time management during the paper	5%

Q6 Read the following extract and answer the questions given below.   08

Did you sit in a taxi without knowing where you wanted to go? Of course not ! But what about life? Do you really know what you want? Most people say they want to be successful. One of the best definitions of success is "success is the progressive realization of worthy goals". This definition fits into anybody's vision of life and the key word here is GOALS

How interesting would a football match remain without the goal posts? That's what our life is without goals. Setting goals is the best way to motivate yourself. They give you a tangible target to shoot for. Goals also give a purpose and meaning in life. They help you priorities on a day to day basis.

Without goals it becomes very easy to get caught up in activities that are useless and do not contribute to your vision. If you don't have specifications, you won't reach anywhere. Having a goal will provide you feedback on how well you are doing and finally goals help you plan the future and shift your focus from activity to net output. Having a goal indeed does wonders to your personal effectiveness!

    i.   What according to the writer, is one of the best definitions of success?
    ii. What happens if we do not set goals?
    iii. Why does the writer state that having a goal does wonders to our personal effectiveness?
    iv. How do you spend your free time? What do you gain through that activity?

b) i) Write a brief summary of the above extract. Suggest a suitable title. You can take the help of **04** the following points: Meaning of success, importance of goal setting, ways of reaching the goals

<div align="center">OR</div>

ii) Imagine you are the Managing Director of PNL limited.draft a memo to the customer relation officer for not attending to a customer complaint.

Government Institute of Printing Technology, Mumbai

Odd term end theory examination October 2024

Course: Basic Science   Code: M103

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1.Answer the following questions. (Any 5)   **20**

a. State four properties of LASER.
b. Define reflection and diffraction of light.
c. Define i) cohesive force ii) adhesive force.
d. Write the Arrhenius definitions of acid and base.
e. Define and explain viscosity with suitable diagram.
f. Explain the formation of cation and anion with suitable example.
g. Define electroplating, state purpose of it

Q2 Answer the following questions. (Any 2)   **12**

a. Differentiate between fundamental quantity and derived quantity.
b. State and derive Newton's second law of motion (F=ma).
c. State and explain Snell's law of refraction with suitable labelled diagram.

Q3 Answer the following questions. (Any 2).   **12**

a. Define error. State the formulas for estimation of error in the measurement .
b. Define and write SI units i) linear motion ii) speed iii) acceleration.
c. Define and explain angle of contact in water and mercury liquid with suitable diagram.

Q4 Answer the following questions. (Any 2)   **12**

a. Define unit. State any four requirement of standard unit.
b. Differentiate between strong acid and weak acid. (any three point).
c. Explain electrolysis of aq. solution of copper sulphate by using platinum electrode with suitable diagram and schematic representation.

Q5   Answer the following questions. (Any 2)   **12**

a. Define between centripetal and centrifugal force. (any three point)
b. State laws of conservation of energy.
c. Explain the shapes of any three liquid (water & mercury) in capillary tube with suitable diagram.

Q6 Answer the following questions. (Any 3)   **12**

a. State any four applications of LASER in printing industry.
b. State and explain stroke's law of viscosity.
c. Define the Lewis concepts of acid and base.
d. Define i) pH ii) pOH
e. A current of 5 ampere is passed through a solution of silver nitrate in an electrolytic cell for 30 minutes. What is weight of the silver deposited at cathode (given E.C.E of silver is 0.001118gm)

Government Institute of Printing Technology, Mumbai
Odd term end theory examination October 2024

Course: Basic Engineering   Code: M104

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:
1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1.Answer the following questions. (Any 5)   **20**
a. Define Hydraulic ,state the advantages of Hydraulic systems.
b. Explain the application of Hydraulics in printing technology (any 4)
c. Explain the working principle of single acting compressor with diagram.
d. Compare between centralized and decentralized compressed air system (any 4 point)
e. Explain the following terms i) Voltage ii) Current iii) Resistant iv) Power.
f. Explain the concept of leakage current and insulation resistance in insulators.
g. State Kirchhoff's voltage law and Kirchhoff's current law.

Q2 Answer the following questions. (Any 2)   **12.**
a. Explain the working of cam & follower state its application.
b. Define Friction. State and explain its types.
c. Explain Pascal law. State the disadvantages of hydraulic system

Q3 Answer the following questions. (Any 2)   **12**
a. Explain the following characteristic of gears driver with diagram. i) Circular path ii) addendum
   iii) dedendum iv) velocity ratio.
b. Explain the laws of static and kinetic friction.
c. Define compressor. Explain the working principle of double acting compressor.

Q4 Answer the following questions. (Any 3)   **12**
a. Explain the working of following mechanical drives i) Belts ii) Coupling iii) Chains.
b. Define lubricant. State the need and function of lubricant. State the types.
c. Compare Good conductor, bad conductor and insulator (4 point)

Q5   Answer the following questions. (Any 3)   **12**
a. Explain the working principle of group drives. State its advantages and disadvantages.
b. Explain star to delta transformation with suitable example
c. i) State Charle's law.
d. ii) Three resistors are connected in series and parallel. Calculate the total resistance and total
   current flowing in each circuit. Construct separate series and parallel circuits and solve. The
   resistors are: R1 = 3 Ω R2 = 2 Ω, R3 = 2 Ω and voltage is 5V.

Q6 Answer the following questions. (Any 2)   **12**
a. What is power transmission? State and explain its need in mechanical drives.
b. State the need for analysis of electrical circuit. Draw the graphical representation of voltage and
   current.
c. Explain horse power and mechanical advantage with reference to hydraulics ii) explain Boyle's law.

Course: Printer's Mathematics   Code: M106

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1. Answer the following questions. (Any 5)   **20**
  a. Are the ratios 25:100 and 4:16 in proportion, show it.
  b. Find the ratio of 75 cm and 2.5 meters.
  c. Calculate simple interest on the sum of Rs.8000 at the rate of 5% for 2 years.
  d. Calculate the volume and surface are of a sphere whose radius is 7 cm.
  e. Convert the percentage into fraction. i) 28% ii) 56% iii) 88% iv) 216%
  f. Define i) Pie chart ii) Line graph.
  g. The daily earnings of 12 workers in a workshop are. 50, 55, 75, 77, 80, 72, 56, 81, 76, 75, 55, 80. Find the mean earning.

Q2 Answer the following questions. (Any 3)   **12**
  a. If 'y' is directly proportional to the square of 'x', also when y = 24 then x = 2. find the value of y, when x = 4.
  b. Find out what rate of simple interest per annum that will make Rs.5000 become Rs.6050 in 3 years.
  c. If the base of right pyramid is triangle of 5 cm. The sides are 15 cm and 13 cm and it's volume is 330 cm^3. calculate the height of pyramid.
  d. If a watch purchased for Rs 4000 and sold for Rs 3600. Find the loss in percentage.
  e. State the steps of plotting a pie chart.

Q3 Answer the following questions. (Any 3)   **12**
  a. A truck travels a distance of 810 km in 9 hrs. How many km will it travel in 12 hrs?
  b. Calculate the compound interest on Rs 20,000 for 3 years at 5% per annum, when the interest is compounded annually.
  c. Find the volume of a cylinder of radius of 10 cm and height 42 cm.
  d. Express the fractions into percentage i) $\frac{125}{625}$ ii) $\frac{3}{5}$ iii) $\frac{11}{70}$ iv) $\frac{13}{9}$

Q4 Answer the following questions. (Any 3)   **12**
  a. 'A' , 'B' and 'C' can do a piece of work in 20,30 and 60 days respectively. In how many days can 'A' do the work if he is assisted by 'B' and 'C' on every third day.
  b. A person borrowed Rs.14000 from his friend at 8% per annum. He returned the money after 2 years. How much money did he pay back altogether when interest is calculated as simple interest.
  c. Find the volume of two cubes of 11cm and 13 cm sides respectively.
  d. A person purchased 10 dozens of toys at the rate of Rs.375 per dozen. He sold each one them at the rate of Rs.33. Calculate his profit in percentage.
  e. Find the mean and mode of following data
     3,5,7,11,19,17,7,15,7,14,11,3,7,16.

Q5 Answer the following questions. (Any 3)   **12**
  a. A car covers 30,000 meters in 15 minutes.find its speed in km/hr.
  b. Calculate a trapezoid area whose height is 7cm and bases are 14cm & 12cm.
  c. A cost of car was Rs 3,50,000 in Jan 2005, if the rate of deprecation is 15% for the first year and 10% for next two years. Find its value after three years.

p.t.o

d. Draw a pie chart for the following data.

Colour	Blue	Green	Red	Yellow
Qty of papers	18	09	06	03

e. Find the mode of the following distribution

Class interval	0-10	10-20	20-30	30-40
Freq	05	08	10	07

Q6 Answer the following questions. (Any 3)   12
a. At what rate percentage per annum will a sum Rs.15,625 become Rs.17,576 when the interest is compounded annually.
b. Calculate the volume of cone of height 14 cm and the base radius 7 cm.
c. Define bar graph. Write the types of bar graph.
d. Find the median of following data
    4, 7, 77, 25, 22, 23, 92, 82, 40, 24, 14,12, 67, 23, 29.

Government Institute of Printing Technology, Mumbai

Odd term end theory examination October 2024

Course: Basic Prepress   Code: M202

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1.Answer the following questions. (Any 5)   **20**
a. Define colour and light.
b. Describe relationship between wavelength and the colour seen.
c. State 4 factors governing the selection of graphical original.
d. Define recording media. State 2 limitations.
e. Define focal length and depth of focus.
f. What is electronic dot generation? Mention 2 advantages.
g. Mention 2 types of densitometer used and state applications of each.

Q2 Answer the following questions. (Any 3)   **12.**
a. Draw a neat diagram and explain range of visible spectrum of light.
b. Define graphic original and give 2 example.
c. List 4 example of recording media.
d. What is lens aberration ?list its causes and remedies,
e. Differentiate between AM and FM screening technique. (4 point)

Q3 Answer the following questions. (Any 3).   **12**
a. Differentiate between additive and subtractive colour theory. (4 point).
b. With a neat diagram explain line original,
c. Write 4 characteristics of digital recording media.
d. What are the factors influencing the quality of images captured by camera?

Q4 Answer the following questions. (Any 3)   **12**
a. With a neat diagram elaborate on subtractive color theory.
b. State 2 characteristics each of any 2 types of graphical original.
c. What is a memory stick? How to use it?
d. State merits of digital camera and conventional camera.
e. Define opacity and optical density.

Q5 Answer the following questions. (Any 3)   **12**
a. Explain the different properties of colour.
b. If input size is 1080 X 1920 pixels and expected output size is 720 X 1280 pixels. Find magnification factor.
c. Elaborate the working principle of digital camera. State its limitations.
d. With appropriate diagrams, explain the need for hybrid screening technique.
e. Explain the working principle and advantages of using a colour densitometer.

Q6 Answer the following questions. (Any 3)   **12**
a. Define magnification and state the formula for magnfication factor.
b. State 2 advantages and 2 disadvantages of using SD card.
c. State the relation between the screen angles of individual colours in CMYK printing process.
d. With diagram, explain the working of densitometer.

Course: Binding & Finishing   Code: M203

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1.Answer the following questions. (Any 5)   **20**

a. Write name and purpose of any two binder's marks.
b. Describe i) Knife ii) Back gauge with reference to the cutting machine.
c. State names of two types of adhesives used in book binding.
d. Describe the working of three knife trimmer.
e. Describe how grain direction of paper affects the folding operation.
f. Write in sequence the operations performed on book sewing machine.
g. Write names of four finishing operations.

Q2 Answer the following questions. (Any 2)   **12.**

a. Write names of three machines and their function related to binding and finishing operation.
b. State two properties of ISO paper sizes. Also write any four ISO paper sizes.
c. Two reams of 90 gsm A2 size paper is to be cut into 4 equal parts on single knife cutting machine. Write the stages in sequence for it.

Q3 Answer the following questions. (Any 2).   **12**

a. Explain the classification of adhesives.
b. Draw schematic diagram of combination folding machine.
c. Describe the construction and working of perfect binding machine.

Q4 Answer the following questions. (Any 2)   **12**

a. Explain any three troubles related to the paper and boards, encountered in book binding.
b. Compare knife folding with buckle folding up to 3 points.
c. Describe lamination operation. State its two applications.

Q5   Answer the following questions. (Any 2)   **12**

a. Describe the working of gathering machine.
b. Write name and purchase of any three tools used in binding and finishing.
c. Explain how three knife trimmer increases the productivity.

Q6 Answer the following questions. (Any 2)   **12**

a. Draw schematic diagram showing parts of book.
b. Explain any one book sewing method.
c. State two applications each of punching, foiling and embossing.

Government Institute of Printing Technology, Mumbai
Odd term end theory examination October 2024

Course: Printing Processes I   Code: M204
Duration: 02.00 Hours   Marks:40

Instructions to Candidates:
1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1. Answer the following questions. (Any 8)   **16**
a. Define waterless offset.
b. Write four applications of printing.
c. Name any two binding styles.
d. Define original.
e. Define graining.
f. Define i) Quire ii) Gross.
g. Write general work flow of printing.
h. Name any two binding styles.
i. Write name of two light sources.
j. Write two names of absorbent substrate.
k. Draw diagram of Blanket to Blanket printing machine.
l. Write the following paper sizes i) A2 ii) Medium

Q2 Answer the following questions. (Any 3)   **12.**
a. Describe two functions of prepress and press.
b. Write names of ink components and their purpose.
c. State the different types of offset plate.
d. List four units of offset printing press and write significance of each.

Q3 Answer the following questions. (Any 3).   **12**
a. Explain two methods of impression with schematic diagram.
b. Describe any two printing processes.
c. Name the four basic materials used for offset plate making.
d. Differentiate between sheet fed offset and web feed (4 point)

Government Institute of Printing Technology, Mumbai
Odd term end theory examination October 2024

Course: Printing Process II   Code: M205

Duration: 02.00 Hours   Marks:40

Instructions to Candidates:
1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1. Answer the following questions. (Any 4)   **16**
a. Draw a schematic diagram of flexography.
b. State four applications of screen printing.
c. State two ISO paper sizes in mm.
d. Draw schematic diagram of gravure process.
e. State four applications of digital printing.
f. State names of four software used in printing industry.

Q2 Answer the following questions. (Any 3)   **12.**
a. Describe any one screen making process.
b. State four applications of flexography.
c. State two advantages and two limitations of gravure process.
d. Write names of four digital printer manufacturing companies.

Q3 Answer the following questions. (Any 3).   **12**
a. Write names of four materials used in screen printing.
b. Write names of four substrates used in flexography.
c. Describe working principal of gravure process.
d. State two characteristics each of ink-jet and electrophotography (laser) process.

Government Institute of Printing Technology, Mumbai
Odd term end theory examination October 2024

Course: Printing Material Science   Code:M207
Duration: 03.00 Hours   Marks:80

Instructions to Candidates:
1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1.Answer the following questions. (Any 5)   **20**
a. Define recycled paper. Write any three advantages of it.
b. Define the following terms i) light fastness ii) brightness.
c. State four factors which affect the cost of paper.
d. State any four properties of security paper.
e. Define i) Thixotropy ii) Viscosity in ink
f. Define i) gloss ii) resistance in paper.
g. State any four properties of screen printing inks.

Q2 Answer the following questions. (Any 2)   **12**
a. State and explain calendering process of paper.
b. Define and explain grain direction with the suitable diagram.
c. Explain the process of offset printing ink formation.

Q3 Answer the following questions. (Any 2)   **12**
a. Define green printing. State any four strategies of it.
b. Describe the effect of moisture content on board. Write its consequences on printability.
c. Define and explain 'additives' with examples in the ink manufacturing.

Q4 Answer the following questions. (Any 2)   **12**
a. Define stock. Explain the process of stock preparation.
b. Define the following properties of paper i) Bursting Strength ii) Folding endurance
    iii) Tearing strength
c. Define 'Pigment'. Compare organic pigment with inorganic pigment (4 Points).

Q5   Answer the following questions. (Any 2)   **12**
a. Define 'Sizing agent'. Explain any four sizing agents with example.
b. Explain three roll mil process of paste ink manufacturing.
c. Describe the ink drying methods (any 2).

Q6 Answer the following questions. (Any 2)   **12**
a. State any 3 properties each of i) Food grade paper ii) Writing paper
b. Define the following terms involved in ink manufacturing i) opacity ii) heat seal resistance
    iii) adhesion flexibility.
c. Define the following types of inks i) Invisible Ink ii) OCR ink iii)Thermochromic ink

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Government Institute of Printing Technology, Mumbai

Odd term end theory examination October 2024

Course: Image Carrier Plano   Code: M209

Duration: 02.00 Hours   Marks:40

Instructions to Candidates:
1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1. Answer the following questions. (Any 4)   **16**
a. Define imposition with its purpose.
b. Write the four names of raw materials used in plate making.
c. Write working flow of CTP plate.
d. Write four properties of aluminium.
e. Write the four light sources used in plate making.
f. Explain importance of temperature and pH in plate making room.

Q2 Answer the following questions. (Any 3)   **12**
a. Write principle of Alois Senefelder's lithography with two applications.
b. Explain transmission density with formula.
c. Name the four coating materials used for making plate.
d. Describe waterless plate with diagram.

Q3 Answer the following questions. (Any 3).   **12**
a. Differentiate types of CTP plate (with 4 points) with its two advantages.
b. Write physical properties of film.
c. Elaborate working of printing down frame with diagram.
d. Write stages of P.S positive plate making.

Government Institute of Printing Technology, Mumbai

Odd term end theory examination October 2024

Course: Print Material Handling & Maintenance   Code: M210

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1.Answer the following questions. (Any 5)   **20**
a. Explain any 2 types of pallets.
b. Describe any 2 materials used for pallets.
c. Compare petroleum & animal lubricants upto 4 points.
d. Write 4 parameters for walls & windows of a warehouse.
e. Define initial cost.
f. State 4 advantages of maintenance management.
g. Define TPM with its 2 needs.

Q2 Answer the following questions. (Any 2)   **12.**
a. Explain construction & working of walkie stacker.
b. Describe following lubrication principles a) Seal formation b) Damper shock.
c. Explain contract maintenance.

Q3 Answer the following questions. (Any 2)   **12**
a. Explain following characteristics of lubricants a) Adhesion b) Wetting ability.
b. Explain storage method in a warehouse.
c. Describe objectives of TPM.

Q4 Answer the following questions. (Any 2)   **12**
a. Describe storage rack classification with schematic diagram of rack.
b. Explain any 2 conventional test for lubricants.
c. List 6 factors affecting cost of installation.

Q5   Answer the following questions. (Any 2)   **12**
a. Define pallet recycling & state 3 functions of lubricants.
b. Describe lighting & safety precautions in a warehouse.
c. Describe any 3 tools in TPM.

Q6 Answer the following questions. (Any 2)   **12**
a. Describe construction & working of AVG.
b. State 3 consideration for high roll storage. Define hazardous waste.
c. Describe personnel training & retraining

Government Institute of Printing Technology, Mumbai

Odd term end theory examination October 2024

Course: Colour Essentials   Code:M211

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1. Answer the following questions. (Any 5)   **20**
a. Define colour and state 2 properties.
b. State 2 colour sensing elements of human eye. State 1 function each.
c. Describe device dependent colour.
d. State 2 advantages and 2 limitations of CIE Lab space.
e. State the working principle and 2 applications of calorimeter.
f. Explain in detail about proportionality failure.
g. State 2 causes and its remedies for moire defect.

Q2. Answer the following questions. (Any 2)   **12.**
a. Explain with diagram, Munsell color specification system.
b. Explain the working principle of densitometer with appropriate diagram.
c. Define and state formula of hue error and dot gain.

Q3 Answer the following questions. (Any 2).   **12**
a. Differentiate between subtractive and additive color theory (up to 6 point).
b. Explain the concept of human vision.
c. State the working principle of Pantone color specification system along with its advantages and limitations.

Q4 Answer the following questions. (Any 2)   **12**
a. With appropriate diagram explain the working of subtractive color theory.
b. Explain the different solid color spaces used for colour measuring. Mention their applications areas.
c. Explain the working principle of color control patch with 2 Pantone shade examples.

Q5 Answer the following questions. (Any 2)   **12**
a. Elaborate on the concept of spectral reflection and spectral transmission.
b. Density of cyan ink alone is 1.20 and magenta ink alone is 1.10. When cyan and magenta are printed over each other, the combined density is 2.05. Calculate ink trapping for the sample. Cyan is printed in first printing unit and magenta in second unit.
c. Compare the screen angles generally used in screen printing and offset printing

Q6 Answer the following questions. (Any 2)   **12**
a. Calculate $\triangle$ E for the following values
   Values - Sample 1: L=65, a= -25, b=40; Sample 2: L=60, a= -20, b=35
b. Explain the different factors influencing and actual graphic reproduction process (any three).
c. Explain the working principle and applications of any 2 color separation graphic aids.

Government Institute of Printing Technology, Mumbai

Odd term end theory examination October 2024

Course: Press Management   Code: M401

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1. Answer the following questions. (Any 5)   **20**
a. Explain motivating and controlling function of management.
b. Describe planning and organizing function of management.
c. Explain characteristics of Joint stock business organization.
d. Describe ABC inventory control system.
e. Explain examples of copy right.
f. Elaborate six sigma concepts.
g. List types of control chart and define control chart.

Q2 Answer the following questions. (Any 2)   **12.**
a. Explain directing and coordinating function of management.
b. Describe quality cost concept with example.
c. Describe objectives of statistical print process control.

Q3 Answer the following questions. (Any 2).   **12**
a. Compare in between single owner and partnership type of organization.
b. Describe types of production and classification of production system.
c. Explain process capability.

Q4 Answer the following questions. (Any 2)   **12**
a. Describe structure of large scale printing press.
b. Explain laws of demand and supply.
c. Describe concept of 5S in printing.

Q5 Answer the following questions. (Any 2)   **12**
a. Describe trade unionism and leadership .
b. Explain ISO standards for paper and ink.
c. Explain variations and types of variation related with SPC.

Q6 Answer the following questions. (Any 2)   **12**
a. Elaborate functions of sales, marketing and stores department.
b. Write welfare provisions of factory act 1948.
c. Explain any one control chart for attributes with suitable example.

Government Institute of Printing Technology, Mumbai
Odd term end theory examination October 2024

Course: Costing and Estimating   Code: M402

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:
1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1.Answer the following questions. (Any 5)   **20**
a. Define time rate system. State its 2 examples.
b. Divide following expenses into direct and indirect
    i) salary of printer ii) paper iii) electricity iv) EMI of printing machine loan v) ink vi) plate
    vii) maintenance of cutting machine viii) design of job
c. State 2 controls and their purpose in material requisition form.
d. Find weight of 17 reams of 60 gsm A3 size paper.
e. 500 books having 16 leaves of A4 size each per book require 2 gm ink per sqm. Find out total ink
    required for this job.
f.   Find out number of A4 size plates required to print newspaper having 32 A2 size four color pages.
g. List 2 exampels each of direct tax and indirect tax.

Q2 Answer the following questions. (Any 2)   **12**
a. Explain 3 factors affecting profitability of printing press.
b. State 6 contents of cost sheet in printing.
c. Write in sequence, steps in making 5000 magazines.

Q3 Answer the following questions. (Any 2)   **12**
a. Explain how to calculate hourly cost rate of printing machine.
b. Calculate weight of 60 gsm A2 size paper required to print 50000 books of A4 size with 128 pages
    per book. Also calculate cost of paper at the rate Rs 79 per kg.
c. Write 6 technical specifications of a notebook.

Q4 Answer the following questions. (Any 2)   **12**
a. Explain 3 factors related to life of assets.
b. Calculate number of plates required to print 10 lakh 4 color banners (one side printing)
     of A2 size i) plates are available in A4 size ii) each plate can give 50,000 prints
c. Write 6 technical specifications of printing machine.

Q5   Answer the following questions. (Any 2)   **12**
a. State 2 examples each of 3 different types of cost.
b. Explain SPANKS formula.
c. State 6 ISO paper size in millimeter.

Q6 Answer the following questions. (Any 2)   **12**
a. Explain budget center. State 2 examples.
b. Describe 3 contents each of works instruction ticket and sales report.
c. Describe 3 factors each to be considered while estimation
    1.   Prepress department
    2.   Binding and finishing department.

Government Institute of Printing Technology, Mumbai

Odd term end theory examination October 2024

Course: Entrepreneurship Development   Code: M403

Duration: 02.00 Hours   Marks:40

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1.Answer the following questions. (Any 4)   **16**

a. State any four required qualities of an entrepreneurs.
b. List four characteristics of an entrepreneur.
c. Write any four advantages of small scale industry.
d. Describe government's role in financing SSI.
e. State and describe formula to calculate EOQ (Economic order quantity).
f. Write four functions of store department.

Q2   Answer the following questions. (Any 3)   **12**

a. Define entrepreneurship and state names of four Indian entrepreneurs along with their business.
b. List four private and four public sector commercial banks functioning in India.
c. State any four fields in bank loan application for starting business.
d. Write four functions of purchase department.
e. State four advantages of Inventory Control

Q3   Answer the following questions. (Any 3)   **12**

a. Differentiate up to four points - micro & small enterprise.
b. With suitable example describe effect of location of industry setup.
c. Write four functions of sales and marketing departments.
d. List stages in filing printing press project report with bank.

Government Institute of Printing Technology, Mumbai

Odd term end theory examination October 2024

Course:Environmental Science & Disaster Management   Code: M404

Duration: 02.00 Hours   Marks:40

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1.Answer the following questions. (Any 4)   **16**

a. Define 'environment'. Write two importance characteristics of environment.
b. Why is environmental awareness mandatory for all the people in the society?
c. Explain the uses of forest (any four).
d. What is BOD? Explain use of BOD.
e. Write names of any four materials in printing industry which cause pollution.
f. Write names of four man made disasters.

Q2 Answer the following questions. (Any 2)   **12**

a. Explain the types of environmental pollution.
b. Write short note on 'waste management'
c. Define
i. Flood
ii. Earthquake
iii. Landslide

Q3 Answer the following questions. (Any 3)   **12**

a. Explain any two types of natural resources.
b. Explain any two types of disasters.
c. Write down four safety precautions related to printing industry.
d. Write down four preventive measures related to deforestation.

Government Institute of Printing Technology, Mumbai

Odd term end theory examination October 2024

Course: Gravure Printing Process   Code:M501

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1.Answer the following questions. (Any 5)   **20**
a. State four applications of gravure process.
b. Write names of two materials used to prepare impression cylinder surface in gravure.
c. Write names of two materials used to make doctor blade.
d. Write names of two solvents used in gravure inks.
e. Write names of two gravure machine manufacturing companies and two ink manufacturing companies.
f. State any two problems and their causes encountered in gravure printing.
g. The repeat length of gravure cylinder is 500 mm. Printing speed is 300 m / min. Find out the length of material printed in one hour, in meters.

Q2 Answer the following questions. (Any 2)   **12**
a. Describe electroplating process.
b. Explain construction and working of laser engraving.
c. Explain doctor blade setting.

Q3 Answer the following questions. (Any 2)   **12**
a. Compare gravure with planographic printing (up to 6 points).
b. Write two properties each of copper, chromium & Nickel.
c. Explain electronic engraving process.

Q4 Answer the following questions. (Any 2)   **12**
a. Related to the gravure cylinder, state the purpose of i) degreasing ii) polishing iii) nickel plating
b. Explain chemical engraving process.
c. Explain general composition of gravure inks.

Q5 Answer the following questions. (Any 2)   **12**
a. Compare gravure cylinder with flexo plate (4 points).
b. Describe cylinder balancing.
c. Explain electrostatic assist.

Q6 Answer the following questions. (Any 2)   **12**
a. Describe i) sleeve ii) integral shaft gravure cylinder.
b. Describe ink and substrate consideration during engraving.
c. Explain any one type of doctor blade holder configuration.

Course: Flexographic Printing Process   Code: M502

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:
1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1. Answer the following questions. (Any 5)   **20**
a. List 4 advantages of flexography.
b. List 4 applications of flexography.
c. Write formula of Shrinkage allowance & write 2 advantages of CTP.
d. Describe inking system of flexography.
e. List 2 causes & 2 remedies of any one flexographic printing problem.
f. Explain procedure of coefficient of friction test.
g. List units of flexography machine alongwith 2 limitations of flexography.

Q2 Answer the following questions. (Any 2)   **12.**
a. Write 1 physical & 1 chemical requirement of photo polymer plate. Also list 2 advantages of CTP plates.
b. Explain construction & working of stack type machine.
c. What is Corona treatment of non absorbent substrates, explain any one method .

Q3 Answer the following questions. (Any 2).   **12**
a. Compare flexography with gravure printing up to 6 points.
b. Explain working of plate mounting equipment system.
c. With neat diagram. Explain impression cylinder construction & hydraulic based loading system.

Q4 Answer the following questions. (Any 2)   **12**
a. With neat diagram explain the part of processed flexographic plate.
b. Explain chambered doctor blade system with diagram.
c. With labelled diagram of Anilox roller, explain i) cell count ii) cell angle iii) cell volume.

Q5 Answer the following questions. (Any 2)   **12**
a. With neat diagram; explain reverse angle doctor blade system.
b. List 2 absorbent & 2 non absorbent materials. Also explain whats is shore hardness of roller.
c. Write general composition of UV flexographic ink.

Q6 Answer the following questions. (Any 2)   **12**
a. Describe CTP flexographic plate making process with flow chart.
b. With neat diagram, explain drying system of flexographic machine.
c. Write function of fountain roller. Also explain any one type of roll covering .

Government Institute of Printing Technology, Mumbai

Odd term end theory examination October 2024

Course: Rigid Packaging   Code: M503

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1.Answer the following questions. (Any 5)   **20**
a. Write 4 advantages of corrugated board.
b. Write 4 advantages of metals used in packaging.
c. Write 4 advantages of glass as packaging material.
d. Explain need of package testing. List 2 tests.
e. Explain drop test of package.
f. What is 3R ? explain any one of them.
g. List 2 software & 2 advantages of using software for packaging design.

Q2 Answer the following questions. (Any 2)   **12.**
a. Describe in details; how packaging system is divided? Write suitable example.
b. With neat diagram ; explain corrugation board manufacturing. Also list its 2 applications.
c. With neat diagram; explain 2 piece can manufacturing.

Q3 Answer the following questions. (Any 2).   **12**
a. Write & explain any 3 primary functions of packaging.
b. List 4 types of board & write 3 properties of any two of them.
c. With neat diagram; explain tube manufacturing process.

Q4 Answer the following questions. (Any 2)   **12**
a. List 2 cushioning material. Write 2 properties of any two of them. Write 2 advantages of cushioning material.
b. What is FEFCO & ECMA. Write 4 functions of ECMA.
c. Write suitable packaging material for the following 1) jam 2) printing ink 3) paper ream 4) water 5) perfume 6) cold drink.

Q5 Answer the following questions. (Any 2)   **12**
a. Write 2 advantages & 2 applications each of 1) paper board 2) wood   3) plastic as packaging material.
b. Write raw materials used for glass manufacturing. Also write any one after treatment given of glass.
c. With neat diagram; explain packaging life cycle.

Q6 Answer the following questions. (Any 2)   **12**
a. Explain Aerosol structure & contents used it. Write its 2 applications, 2 advantages.
b. Describe the stages of glass manufacturing in details.
c. Explain
i. Stack test
ii. Crush resistance test of package

Government Institute of Printing Technology, Mumbai

Odd term end theory examination October 2024

Course: Plano Sheetfeed Printing   Code: M504

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1.Answer the following questions. (Any 5)   **20**
a. State four names of offset machine manufacturers.
b. Write two characteristics and two applications of waterless offset process.
c. Name any four part of feeder.
d. Name the four components of dampening solution.
e. Explain purpose of anti set-off spray with two disadvantages of powder spray.
f. Explain misregister with its two causes.
g. Explain slur guide with diagram.

Q2 Answer the following questions. (Any 2)   **12.**
a. Write working principle of lithographic offset and state three applications of offset.
b. Draw a diagram of conventional dampening unit, name its parts and their function.
c. Describe construction and working of plate cylinder with diagram and name its parts.

Q3 Answer the following questions. (Any 2).   **12**
a. Describe construction and working of inking unit on offset press.
b. Compare compressible and non compressible blanket with diagram.
c. Write any three problem and their solutions related to the offset printing process.

Q4 Answer the following questions. (Any 2)   **12**
a. Describe construction and working of delivery unit of offset press
b. Describe working of any one dampening system with diagram.
c. Name the different sheet transport controlling system and their functions.

Q5   Answer the following questions. (Any 2)   **12**
a. State name and purpose of any six parts involved in feeding unit.
b. Explain the function of following in dampening solution. i) pH ii) conductivity iii) water hardness.
c. Describe working of metal decoration press with its applications.

Q6 Answer the following questions. (Any 2)   **12**
a. Describe key inking system with diagram and its working.
b. Describe two external drying method used on offset press.
c. Describe working of three point register system with diagram.

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Odd term end theory examination October 2024

Course: Press Work Web   Code: M506

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:
1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1.Answer the following questions. (Any 5)   **20**
a. Write two advantages and two applications of web offset.
b. Explain need of drying on web offset press.
c. Explain jaw folder with diagram.
d. Describe the working of box tilt with diagram.
e. How fanout can be controlled? Explain.
f. Define slitting and explain any one slitter.
g. Write one causes and remedy for each i) web wrinkles ii) telescopic roll.

Q2 Answer the following questions. (Any 2)   **12.**
a. Compare sheetfed offset press with webfed offset press up to 6 points.
b. With schematic diagram describe working of basement type reel stand.
c. Explain the working of collect cylinder with schematic diagram.

Q3 Answer the following questions. (Any 2).   **12**
a. Describe zero speed splicer with diagram.
b. Define chilling mechanism. Explain any one type of chiller with diagram.
c. Describe compensator roller with diagram and explain its function.

Q4 Answer the following questions. (Any 2)   **12**
a. Name the inline operation performed on web press. Explain any one.
b. Describe CIC (satellite) web press configuration with diagram.
c. State the reel stand location on web press and explain revolving reel stand.

Q5   Answer the following questions. (Any 2)   **12**
a. Explain dancer roller, write functions of dancer roller.
b. Describe the following i) high velocity hot air dryer ii) combination dryer.
c. List four register control devices and explain any one.

Q6 Answer the following questions. (Any 3)   **12**
a. Describe flying splicer with diagram.
b. Describe conveyor mechanism and its need and working.
c. Write three problems, their causes and remedies related to web printing.

Government Institute of Printing Technology, Mumbai
Odd term end theory examination October 2024

Course: Digital Printing   Code: M507
Duration: 03.00 Hours   Marks:80

Instructions to Candidates:
1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1.Answer the following questions. (Any 5)   **20**
a. Define digital printing. State its 2 applications.
b. Describe the working principle of magnetography.
c. Describe working of OPC electrophotography.
d. State measuring of large format printing & 2 applications.
e. State 4 characteristics of digital proofing.
f. Describe the purpose of RIP.
g. Write names of 4 printer manufacturing companies.

Q2 Answer the following questions. (Any 2)   **12**
a. Compare planographic offset with digital printing (6 point).
b. Draw schematic diagram of electrophotography.
c. State four types of proofs and explain any one.

Q3 Answer the following questions. (Any 2)   **12**
a. State 3 characteristics each of powder toner & liquid toner.
b. Write 6 technical specifications of large format printer.
c. Describe three major stages of software based RIP operation.

Q4 Answer the following questions. (Any 2)   **12**
a. State 3 advantages and 3 limitations of digital printing.
b. Explain working principle of ink-jet printing with neat diagram.
c. Describe VDP and POD with 1 application each.

Q5   Answer the following questions. (Any 2)   **12**
a. Explain the principal of magnetographic printing with diagram.
b. State 6 technical specifications of inkjet printer.
c. Describe why color calibration of monitor and printer are important in digital proofing.

Q6 Answer the following questions. (Any 2)   **12**
a. Write names of 6 substrates used in digital printing.
b. Compare electrophotography with inkjet process up to 6 points.
c. Explain SWOP and GRACOL proofing in brief.

Government Institute of Printing Technology, Mumbai

Odd term end theory examination October 2024

Course: Electronic Color Correction   Code: M508

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1. Answer the following questions. (Any 5)   **20**

a. Draw labelled cross section diagram of human eye and write range of visible spectrum.
b. Write full form of i) RIP ii) UCR iii) GCR iv) FM.
c. Write working principle & application of flatbed scanner.
d. List any four factors affecting scanning quality.
e. With diagram; explain working principle of 'CCD'.
f. Describe data compression & list its 2 advantages.
g. Write full form of PDF. List its 2 advantages and 2 types.

Q2 Answer the following questions. (Any2)   **12**

a. List and explain any two attributes of color.
b. Define color gamut. Explain color gamut mapping process.
c. Explain following term
   1. Dot gain
   2. Dpi; Lpi
   3. Dot area

Q3 Answer the following questions. (Any 2)   **12**

a. With labelled diagram, explain Additive color theory. List its 2 applications.
b. Describe any three rendering intents.
c. Explain CIP4 technology.

Q4 Answer the following questions. (Any 2)   **12**

a. Describe errors of trichromatism with graph of any two process inks.
b. Elaborate 4Cs of color management.
c. With neat diagram; explain construction & working of colorimeter.

Q5 Answer the following questions. (Any 2)   **12**

a. With neat diagram, explain working principle of PMT.
b. Write the 3 functions of test chart. Elaborate any 3 elements used for it.
c. Find $\triangle$ E for CIE lab gamut for following readings
   i) A_1 (60, -3, 5), A_2 (62, -3, 6)   ii) Z_1 (15, 4, 16), Z_2 (16, 5, -5)

Q6 Answer the following questions. (Any 2)   **12**

a. Compare between Bitmap and Vector image up to 4 points. Also define resolution.
b. Explain meaning of device dependent colors & device independent colors. State 2 examples each.
c. State screen angles for any three process colors for 1) Planographic offset process 2) Flexographic printing process.

Government Institute of Printing Technology, Mumbai

Odd term end theory examination October 2024

Course: Flexible Packaging   Code: M509

Duration: 03.00 Hours   Marks:80

Instructions to Candidates:

1. Attempt all questions and illustrate your answer with neat sketches wherever necessary.
2. Figures to the right indicate full marks.
3. Assume suitable data if necessary

Q1. Answer the following questions. (Any 5)   **20**
a. Define polymerization and state its two types.
b. State functions of any 2 layers of tetra pack.
c. Write 4 proprieties of polyethylene.
d. Explain vacuum packaging with diagram.
e. State 2 application areas of PE and PP each.
f. Define aseptic packaging. Give 2 examples.
g. Mention 4 properties of any one flexible food packaging material.

Q2 Answer the following questions. (Any 2)   **12**
a. Differentiate between thermoset and thermoplastic (up to 6 points).
b. With neat labelled diagram, explain the working of blown film extrusion process.
c. How will you package tea powder? Support your answer.

Q3 Answer the following questions. (Any 2)   **12**
a. What are the steps involved in manufacturing of blister packaging.
b. Explain the working of stretch wrapping machine. State 2 materials used for stretch wrapping.
c. Explain shrink wrapping process with diagram.

Q4 Answer the following questions. (Any 2)   **12**
a. Explain in detail, any 3 additives used in plastics manufacturing.
b. With neat labelled diagram explain the working of wet lamination process.
c. Explain in detail, the properties of packaging used for milk.

Q5   Answer the following questions. (Any 2)   **12**
a. Explain edible packaging. Write its 2 advantages.
b. Explain with a diagram the working of vertical form fill seal machine.
c. Differentiate between CAP & MAP (up to 6 points).

Q6 Answer the following questions. (Any 2)   **12**
a. Explain the process of dry lamination with diagram.
b. Describe any one type of lamitube. Write it's 4 application.
c. Explain any one type of smart label & also write about intelligent packaging.