Question of EIM

2 Marks.

ch-1
1. What is Business ?
2. State two features of Business.
3. Define Analytical industry.
4. Define synthetic industry.
5. Define extractive industry.
6. Define Genetic industry.
7. What is Trade.
8. What is Aid to trade.
9. Define Retail trade and Wholesale trade.
10. Define Local trade and regional trade.
11. Define National trade and international trade.
12. Define import trade and export trade.
13. What is unlimited liability ?
14. Define partnership Deed.
15. What do you mean by Active partner., sleeping partner, Nominal partner, minor partner, and partner by estoppel.
16. Who is karta.
17. Define Management.
18. Difference between Administration and management.
19. Define scientific Management.

ch-2
20. Define Entrepreneurship.
21. Who is an Entrepreneur ?
22. Full form and Role of DIC, OSFC, OSIC, IDCO, SIDBI, IPICOL.
23. Role of commercial Bank.
24. What do you mean by MSME.

ch-3
25. Define Journal.
26. Define ledger.,
27. Define BEP, and angle of incidence.

ch-4

28. Define Finance Management.
29. What is Fixed capital.
30. What is Working capital.
31. Difference between Fixed capital and working capital.

ch-5

32. Define inventory.
33. What is BIN-card.
34. Define store ledger.
35. Define Goods received Notes (GRNs)

ch-6

36. Define production planning.
37. Define production control.
38. state production, planning and control.

ch-7

39. What is market?
40. Define Hire purchase.
41. state "down payment"
42. Define E-commerce, Autovending, Auction sales.
43. Explain convenience goods.
44. Define shopping goods.
45. Define speciality goods.
46. Define Branding.
47. Define packaging.
48. What is Labelling.
49. Define product-Mix.
50. Explain skimming price strategy.
51. Explain penetration strategy.
52. What is advertising.

ch-8

53. Define Human Resource Management (HRM)
54. What do you mean by unsolicited applications.
55. Define induction training.
56. Define vestibule training.
56. What is performance appraisal.
57. What is Recruitment.
58. Define training.

ch-9

59. What is industrial sickness.
60. Symptoms of sickness.
61. What do you mean by over-capitalisation and under-capitalisation.
62. ~~How liberaki~~ How liberalisation and globalisation of economy causes sickness.
63. Remedial Measures of sickness.
64. Role and full form of BIFR.

ch-10.

~~64.~~

65. Define a factory.

5 Marks

1. Importance of management.
2. Principles of scientific management.
3. Features of sole proprietor with advantages and disadvantages
4. Difference between Administration and management.
5. Joint stock company
6. co-operative society.
7. Joint Hindu family Business.
8. Basic characteristics of partnership with advantages and disadvantages.
9. PPR and DPR.
10. Role of an entrepreneur in socio Economic development of a society.
11. Difference between Entrepreneur and Enterprise.
12. short notes on:- Double entry system of book keeping, Types of accounts., Journal, ledger, cash books, Trial balance.
13. Break-even analysis and problems related to BEP.
14. Prepare a cost sheet with imaginary figure.

15. Importance of Financial Management.
16. Difference between fixed capital and working capital.
17. Working capital cycle.
18. Short notes on :- Bin card, store ledger and Goods received Note.
19. What is the importance of inventory.
20. Importance of production, planning and control.
21. Sales Management and its importance.
21. Marketing Management and its importance.
22. Short notes on - Branding, packeging, labelling, product - mix.
23. Discuss the method of pricing.
24. Sales promotion techniques.
25. Method of Recruitment.
26. Sources of Recruitment.
27. Need of performance appraisal.
28. Symptoms of Industrial sickness.
29. Causes of sickness.
30. Remedial Measures of sickness.
31. Duties and process of factory inspector.
32. Factories Act related to Hours of work.

10 Marks.

1. What is Business, Explain component of Business.
2. What is management. Describe the functions of management.
3. State and Explain the principles of scientific management.
4. Discuss the qualities of an good entrepreneur.
5. Explain the contents of a project report and also explain need of it.
6. cost-sheet preparation.
7. Problems related to BEP.
8. Procedures in making purchases.
9. Short notes on- Bin card, Store ledger and Goods received Notes (GRN)
10. Steps in production, planning and control.
11. Explain different selling Methods.
12. Short notes on- Branding, packeging, labelling, Product-Mix.
13. Advertising and its Medias.
14. Describe the selection Methods.
15. Discuss the methods of training.
16. Performance Appraisal and Need of performance Appraisal.
17. Sources of recruitment.

18. Discuss the causes of industrial Sickness.
19. Explain the internal and external causes of industrial sickness.
20. Factories Act relating to Health.
21. Factories Act relating to Welfare.
22. Factories Act relating to Safety.

Question Bank

Subject :- SGPD (Switchgear & Protective Devices)

2 Marks Questions :-

1) Write the names of switchgear equipments.
2) Define prospective current.
3) Define PSM.
4) Define TSM.
5) Write Causes of over voltage.
6) Define pick-up current.
7) What is fusing current ?
8) Define fusing factor.
9) Why discrimination is an essential feature of switchgear ?
10) At what voltage outdoor type switchgear equipment is installed ?
11) Define Restriking Voltage.
12) State harmful effect of Lightning.
13) What is short-time rating of circuit-breaker ?
14) What is fuse ? Write one of its major advantages.
15) Name the quenching medium used in circuit-breaker.
16) What is Arcing ground ?
17) Why a.c circuit is more easily interrupted than d.c circuit ?
18) What are the materials used for fuse element ?
19) Write difference between fuse and circuit breaker.
20) Write disadvantages of HRC type of fuses.
21) Define short circuit KVA.
22) What is a reactor ?

2 Marks Questions

23) Write two advantages of static relay over Electromechanical type relay.
24) Define protective relay.
25) What is pick-up current of relay?
26) What is circuit-breaker?
27) Define breaking capacity of circuit-breaker.
28) Define RRRV.

5 Marks Questions

1) Discuss essential features of switchgear.
2) Write short notes on difference between a fuse and circuit breaker.
3) Write short notes on Arc phenomenon.
4) A relay is connected to a 400/5 current transformer and set at 150% with a primary fault current of 2400 A. Calculate plug-setting multiplier.
5) Explain current differential relay.
6) Write harmful effect of lightening.
7) Write short notes on the followings:—
   (i) Rod-gap lightening arrester.
   (ii) Cross blast air circuit breaker
   (iii) Reactors.
   (iv) Advantages of static relay
   (v) Buchholz relay.

5 Marks Questions:-

8) Explain plain break oil circuit breaker.
9) Define and explain P.S.M and T.S.M.
10) Explain Restriking voltage and Recovery voltage.
11) Explain Horn-gap Lightening arrester with diagram.
12) Explain Air-Blast circuit breaker.
13) Define prospective current and cut-off current.
14) Write short notes on Arc phenomenon.
15) Explain Current differential relay.
16) Explain Surge Absorber.
17) Explan different types of reactors.
18) A generating station has three section bus-bars connected with a tie bar through 6% reactors rated at 5000 KVA. Each generator is of 5000KVA with 12% reactance and is connected to one section of bus-bars. Find the total steady infeed to a dead short-circuit between the lines on one of the sections of bus-bar. (i) with reactors and (ii) without reactors.
19) Write short notes on:-
(i) SF_6 circuit-breaker.
(ii) Differential protection of alternators.
(iii) Low oil Circuit breaker.
(iv) IDMT Relay
(v) Vaccum Circuit Breaker.
(vi) Methods of Arc Extinction.

20) Draw the wave diagram of current and explain briefly cut-off current, pre-arcing time, arcing time, total operating time.

21) Explain high resistance method of Arc extinction.

22) Explain Merz-price protection of feeders.

23) A circuit breaker is rated as 2000A, 1500 MVA, 33 kV, 3 second, 3ϕ oil circuit breaker. Find
(i) Rated normal current (ii) Breaking capacity
(iii) Rated symmetrical breaking current.
(iv) Rated making current.
(v) short time rating.

24) Explain rating of CB.

25) write neat sketch explain how lightning discharge occurs.

26) with neat sketch explain about cut-off current characteristics relating to HRC type of fuse.

27) Explain bus-bar reactors.

28) Explain essential qualities of good protective system.

29) Explain Merz-price protection for transformers.

10 Marks Questions:-

1) Explain valve type lightning arrester.

2) Explain low oil circuit breakers.

3) Explain induction-type directional over-current relay with circuit diagram.

4) A generating station has three bus-bars connected with a tie-bar through 6% reactor rated at 5000 kVA. Each generator is of 5000 kVA with 12% reactance and is connected to one section of bus-bars. Find the total steady input to a dead short circuit between the lines on one of the sections of bus-bar (i) with reactors and (ii) without reactors.

5) What are the types of reactors used in substation as per locations? Explain relative advantages.

6) Explain earth-fault protection for transformer.

7) Explain HRC catridge fuse.

8) Explain induction type non-directional over-current relay with circuit diagram.

9) Explain Horn-gap lightning arrester with its advantages and limitation.

10) Explain valve-type lightning arrester with figure.

11) With neat sketch explain about minimum oil circuit breakers.

12) Explain Buchholz relay with neat diagram.

13) Explain SF_6 circuit-breaker.

14) Explain HRC fuse with tripping device.

15) Explain Basic operation on Induction relay.

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7 MARKS

① Explain group and individual drive.

② Explain direct arc furnace and uses of arc furnace.

③ Explain principles of resistance welding.

④ Explain series parallel control of traction motors.

⑤ The illumination at point on the working plane directly below the lamp is to be 100 lumens/m^2. The lamp gives 256 C.P. uniformly below the horizontal plane. Determine the height at which the lamp is suspended. Also find illumination at point on the working table. 1-2 meters away from the vertical axis of lamp.

⑥ A worn out shaft 10 c.m. diameters 25 cm long is to be coated with 2 mm thick layer of nickel. Determine the quantity of electricity required and time taken if current density of 160 amp/sq meter is adopted. Assume current efficiency of 90%. Density of nickel = 8.9 gm/cc, E.C.E of nickel = 3043 mgm/coulomb.

30 SUNDAY

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(7) Explain Faraday's Laws of Electrolysis.

(8) Explain working principle of Direct Arc furnace.

(9) What are the different types of ARC welding ? Explain.

(10) What is Resistance welding ? Explain different types of resistance welding.

(11) What is discharge lamp ? Give basic idea about gas discharge lamp.

(12) Explain about starting and running characteristics of D.C. motors.

(13) Explain speed control of motors by series-Parallel control method.

(14) If 18.2589gm. of nickel are diposited by 100amp. flowing for 10 minutes, how much copper would be diposited by 50 amp for 6 min. ? Atomatic weight of nickel = 58.6 and that of copper 63.18. Valency of both is 2.

(15) Explain vertical core type induction furnace :

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(16) write down the applications of dielectric heating.

(17) Explain inverse square law and cosine law of illumination.

(18) Estimate the number and wattage of lamps which would be required to illuminate a workshop space 80 x 13 meters by means of lamps mounted 5 meters above the working plane. The average illumination required is about 100 lux, coefficient of utilisation is 0.4, luminous efficiency 16 lumens per watt. Assume a space-height ratio of unit and a candle power depreciation of 20%.

(19) Explain the metadyne system of control of D.C motors.

(20) state the advantages of electrical heating.

(21) Explain principle of Arc welding.

(22) Explain briefly the polar curves.

(23) State the application of DC. Motor and single phase induction motor.

(24) Explain starting and running characteristics of DC series motor.

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(25) Explain series parallel control of traction motors.

(26) Explain briefly the Metadyne control of motor.

5 MARKS

(1) Explain briefly the factors affecting the amount of Electro-deposition.

(2) Explain briefly the principle of resistance furnace.

(3) Explain the inverse square law.

(4) Explain the principle of Sodium vapour lamp.

(5) Explain the choice of electric ~~device~~ drives.

(6) Explain DC and AC traction motor.

(7) Explain briefly braking with 1-Phase series motor.

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(8) Write basic principle of electrodeposition.

(9) Write advantages of electrical heating.

(10) Explain principle of arc welding.

(11) Explain with neat sketch the working of sodium vapour lamp.

(12) Explain group and individual drive.

(13) Explain Regenerative braking with three phase induction motors.

(14) What are the factors affecting and governing electro-deposition?

(15) What are the advantages of resistance heating?

(16) Give principle of microwave heating with application.

(17) Explain working of direct core type induction furnace.

(18) Explain about Laws of illumination.

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19) what are the method of choice of electric drives ?

20) Explain about Regenerative Braking.

21) State faradays Laws of Electrolysis.

22) state types of arc welding.

23) write short notes system of Track electrification.

2 MARKS

1) What is faradays Law of Electrolysis.

2) State application of dielectric heating.

3) what is luminous efficiency.

4) what is depreciation factor.

5) what is Brightness.

6) what is traction.

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O / P / Q / R

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(7) What is Magnetic Breaking.

(8) what is polarization.

(9) Give the name of one high frequency heating method.

(10) what is arc blow.

(11) what is solid angle.

(12) Define MSCP.

(13) Show the connection diagram of a fluorescent tube.

(14) what is current efficiency

(15) what is skin effect.

(16) what are the different application of Electrolysis.

(17) Define MHCP.

(18) what is Polar curves.

(19) state two application of a series motor.

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(20) Define luminous intensity.

(21) Define intensity of illumination.

(22) Define maintenance factor of illumination.

(23) State cosine law of illumination.

Short notes :—

(1) Magnetic Braking

(2) Neon single lamps

(3) Application of D.C. Motors

(4) Electroplating

(5) Application of high frequency induction heating.

(6) coreless induction furnace and its advantages

(7) Application of D.C motors in traction

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QUESTION BANK OF

ELECTRICAL INSTALLATION AND ESTIMATING (6 TH SEM ELECTRICAL)

2- MARKS QUESTION

1) **Why fuse is not provided in neutral of A.C supply?**
2) **What is the minimum ground clearance required for 11kv and 132kv transmissionline.?**
3) **What is the permissible voltage drop in an internal domestic house wiring?**
4) **How many earth connections are requiredformotor frame as per IE rule?**
5) **What is the maximum load that is permitted in a power circuit and lighting circuit?**
6) **What do you mean by guarding of overhead line?**
7) **What is the full form of AAC ,ACSR,TRS,VIR.**
8) **What is the full-form of PILC.**
9) **State what is egg insulator and where it is used.?**
10) **State the minimum ground clearance required for 33kv line while passing along the street. (refers to data table)**
11) **Write down the full form of TPMO and where and why it is used?**
12) **What are the systems of wiring connection? Write the advantages of loop-in system?**
13) **State the criteria required to fulfill for selecting a conductor for an installation.?**
14) **The size of batten required to carry 8nos. of single core pvc wires**?
15) **State the difference between main distribution board and branch distribution board.?**
16) **What is Transposition**.?
17) **State the size of batten required to carry 10 nos. of single core PVCwires.**
18) **Why must the connection of earth in case of earthing have a lowresistance**.?
20) **Write the general specification ofcable?**
21) **Where and why strain type insulator is used?**
22) **What is V guard where it is used?**
23) **What is the maximum voltage regulation allowed for H.V and EHV lines as per rules?**
24) **Importance of continuous earth wire in a domestic installation.**
25) **What is the minimum ground clearance required for 132 KV Transmission line?**
26) **What is the depth of a pole to bury under the ground?**
27) **What is jumper?**
28) **Why concealed type of conduit wiring is not suitable in workshop?**

29) What is a load centre?

30) What is barbed wire?

31) What is bird guard?

5-MARK QUESTIONS

1) **Why Earthing is required in a domestic house wiring? Mention a list of materials required for a plate Earthing.**
2) **Draw and explain how a staircase light may be switched ON and OFF from ground floor and first floor?**
3) **Draw a wiring diagram of an internal house wiring starting from energy meter and explain briefly the items used in the wiring.**
4) **What are the factors depends for selection of size of conductors for over head transmission line.**
5) **Where and why following materials are used.**
   a. AB switch
   b. Barbed wire
   c. Egg type insulators
   d. Isolators

6) Write short notes on pole mounted substation and plinth mounted Substation.

7) Shorts notes on method of wiring.

8) A pole for required high tension on 11 KV ,3 phase, 50 cycles line is required to be earthed and a stay provided. M ake a neat sketch of the pole , stay , wire, stay plate , earthing and other components required for the purpose . Prepare a complete list of materials with specification of each items.

9) Draw a neat sketch of a stay which will be provided at the end pole with required materials

15 /20 MARK QUESTIONS

1) **A newly constructed single storeyed house is to be provided with single phase 230 volts,50 HZ having a load of 5 KW(light,fan,socket). The supply is to be given from overhead line 20 mt. away from the building. Prepare a list of the material,for giving sevice connection and also estimate the cost of the**

service connection. A G.I pipe is to be raised along the roof to receive bare conductor on its cross arm fitted with insulators. Also draw sketch of service connection.

2)A newly constructed single storeyed house is to be provided with single phase 230 volts,50 HZ having a load of 4 KW. The supply is to be given from overhead line 30 mt. away from the building. Prepare a list of the material,for giving sevice connection and also estimate the cost of the service connection.

3) **Prepare a list of material and estimate the cost for giving service connection to a double storeyed building having two energy meters.The supply is to be given at 230 volt single phase having a load of 4 sub-cicuit (light,fan)and two 15 amp socket points on each floor .The supply is to be given from overhead line 20 metres away from the building .Also draw diagram of service connection.**
4) **Q.1 Estimate the cost of a pole mounted sub-station of capacity 50 KVA transformer of rating 11/0.5 KV. The H.T line is available about 50 metres from the proposed site.Also make a neat sketch of the pole mounted sub-station.**
5) **Q.1 In a city locality, an overhead distribution line of 400 volts, 3 phase ,50 cycle/sec. is to be erected along a straight route on steel tubular poles. The length of the line is 500 metres and the line terminates at the ends. The span between adjacent poles is 50 mts. The street light conductors are also supported on the same poles. Make a neat sketch of the last 2-3 poles and estimate the quantity of material required for installing the distribution line with full specification of each items. Other details of the line are suggested as under.**

ACSR conductors are phase lines, neutral and street light conductor of size 6/1$\times$ 2. 11 (squirrel conductor). Earth wire 8 SWG , Galvanised iron

6) **A tube well owner wants 3 phase,4 wire power connection to his 10 BHP motor from an over head double pole structure having of 25 KVA ,11/0.4 KV . The double pole structure is 300 metres away from tube well. Estimate the quantity of materials required for erecting a line and for giving a service connection to the tube well motor. Also draw neat sketch of the same**

7) Estimate the quantity of material required for the construction of 1 kilometre overhead line. The line is tapped from the existing 11 KV line to feed a particular locality. The particulars of the important materials to be used for the line to be erected are as follows.

1.Size of conductor : ACSR 6/1× 2.59 mm

2.Tubular pole or supports of 11 metres length3.

3.Size of earth wire : G.S (galvanized steel) 8 SWG

4.Average span length=100 mts.

5.No. of earthing sets to be installed:3 nos.

8)Estimate the material and cost for the construction of 1 kilometre overhead line. The line is tapped from the existing 11 KV overhead line. Assuming that the line is passing over the main road, telegraph line and railway line. Given data.

9) A small workshop of size 11m X 6 m X 4m high is under construction . it is required to be provided with the following electrical power connection for motors. The electrical connection to motor are to be taken along wall i.e the floor is not to be provided with any wiring trench.

1. one 5 HP three phase motor for lathe.

2. one 3 HP three phase motor for a small lathe

3. one 2 HP three phase induction motor for an automatic tool manufacturing machine.

4. one drilling machine driven by a single phase one HP motor

5. one grinding machine driven by 0.5 HP single phase motor

DC Power Transmission Technology.

2 marks Questions.

1. What is break-even distance of HVDC transmission line.
2. What are the problems of AC interconnection.
3. What are the disadvantages of DC transmission.
4. What is energy availability of HVDC transmission.
5. What is transient reliability of HVDC system.
6. What are the applications of HVDC transmission
7. What are the different types of Filters used in HVDC system.
8. What is SCR (short circuit Ratio) of HVDC system.

5 marks Questions

1. What are disadvantages of DC transmission.
2. What are the applications of DC transmission.
3. Describe different types of DC link with diagram.
4. Explain the planning for HVDC transmission.

10 Marks Questions.

1. Comparision between AC and DC transmission.
2. Explain the construction and major parts of a converter station with diagram.
3. What are the modern trends in HVDC technology.

Chapter-3 Converter and HVDC system control.

2 marks Question.

1. What is individual phase control.
2. What is equidistance phase control.
3. What are the disadvantages of individual phase control.
4. What is VDCOL and where it is used.
5. What is Emergency control.
6. Why telecommunication lines are required in HVDC syste

5 marks Question.

1. Explain converter control characteristics of a converter station.
2. Explain control Hierarchy of a DC link.
3. Explain start-up of DC link
4. What are the requirements of Telecommunication.

10 marks Question.

2. Explain principle of DC link control.
3. Describe individual phase control of HVDC system.
3. Explain Energization and Deenergization of a Bridge.
4. Explain power control in HVDC system with diagram.
5.

Chapter-4 Converter faults and protection.

2 marks Question.

1. What are the common faults in a HVDC system.
2. What is Arc back fault.
3. What is current extinction fault.
4. What is the difference between Arc through and misfire fault.
5. What are the types of overvoltages which may occurs in HVDC system.
6. What is Surge Arresters.

5 marks Questions

(1) Explain misfire fault.
(2) What are the disturbance on AC side of HVDC system.
(3) What are the disturbance on DC side of HVDC system.
(4) What are the external converter disturbances which cause overvoltages.

10 marks Question.

(1) Explain protection system of HVDC transmission against overcurrent with diagram.
(2) Describe commutation failure
(3) Explain overvoltage protection in a converter station.

(3) Chapter-5 Smoothing Reactor and DC line

2 marks Questions.

(1) What is smoothing reactor.
(2) What is corona in HVDC transmission.
(3) What is space charge field.
(4) What is the function of DC Breakers.

5 marks Questions

(1) What are the functions of smoothing Reactor.
(2) What are the effects of corona in HVDC link.

10 marks Question.

(1) Explain ~~the~~ ~~working~~ construction and working of DC Breaker.
(2) What is corona in HVDC link and what are the effects of corona.

Reactive Power Control.

2 marks

(1) What are the reactive power sources used in HVDC transmission.
(2) Why Reactive power sources are required in HVDC transmission.
(3) What is synchronous condenser.
(4) What is SVC.
(5) What is Statcom.
(6) What is FC - TCR.
(7) What is TCR - TSC.

5 marks.

(1) Explain Different types of ~~SVD~~ SVC.

10 marks.

(1) What are the different types of reactive power sources used in HVDC transmisson and explain them.

Introduction to Multiterminal DC System

2 marks

(1) What is MTDC system.
(2) Why MTDC system is required.
(3) What are the advantages of meih MTDC System.
(4) What is the disadvantage of series MTDC system.

5 marks.

(1) What are the potential application of MTDC system.
(2) Explain different types of MTDC system.
(3) What are the difference between series and parallel MTDC system.

Chapter-2 (Thyristor Valve)

2 marks Questions

1) What is thyristor.
2) What is gate drive.
3) Define thyristor valve.
4) What are the recent trends of HVDC valves.
5) What are the considerations in valve design.
6) Draw layers diagream and symbol of thyristor.

5 Marks Questions

1) Explain V-I characteristics of thyristor.
2) Explain the working of a thyristor. (modes of operation).
3) What are the valve design consideration.

10 Marks Question

1) Explain switching characteristics of thyristor.