

7. A simply supported beam A of length l , breadth b and depth d carries a central point load W . Another beam B has same length and depth, but its breadth is doubled with the same loading. The deflection of beam B will be _____ as compared to that of beam A.
- (A) One-fourth (B) Double
(C) Four times (D) One-half
8. A metal pipe of 2 m diameter contains a fluid having a pressure of 10 MPa. If the permissible tensile stress in the metal is 200 MPa, then the thickness of the metal required for making the pipe would be :
- (A) 50 mm (B) 100 mm
(C) 20 mm (D) 25 mm
9. A circular shaft AB of length L is held at two ends without rotation. A twisting moment T is applied at C , a distance $L/3$ from left support A . The twisting moment in the portion AC will be :
- (A) T (B) $T/3$
(C) $T/2$ (D) $2T/3$
10. Two soil samples A and B have porosities 40% and 60% respectively. What is the ratio of void ratio $e_A : e_B$?
- (A) 2 : 3 (B) 3 : 2
(C) 4 : 9 (D) 9 : 4
11. For which of the following, Pelton turbine is suitable?
- (A) Low discharge and low head
(B) Medium discharge and medium head
(C) High discharge and high head
(D) Low discharge and high head
12. Logarithmic decrement is the natural logarithm of the :
- (A) Damping factor (B) Amplitude reduction factor
(C) Whirling speed (D) Dynamic magnifier
13. A body is subjected to transverse vibration. Then the stress induced in the body will be :
- (A) Tensile stress (B) Shear stress
(C) Compressive stress (D) Hoop stress
14. Basically forging involves which of the following operations?
- (A) Drawing (B) Upsetting
(C) Squeezing (D) All of these

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15. The material removal rate in electrochemical machining is proportional to the :
 (A) Current settings (B) Temperature of the electrolyte
 (C) Both of these (D) None of these
16. Which law of thermodynamics distinguishes between reversible and irreversible physical processes?
 (A) Zeroth law (B) First law
 (C) Second law (D) Third law
17. Which of the following is not true? www.eemadeeasy.com
 (A) Gas laws are applicable to superheated steam
 (B) Gas laws are applicable to wet steam
 (C) Triple point is the only state at which the solid, liquid and vapour phases coexist in equilibrium
 (D) Entropy of steam is zero at absolute temperature of 273 K
18. Which cycle is used for steam power plants?
 (A) Rankine cycle (B) Carnot cycle
 (C) Brayton cycle (D) Otto cycle
19. Which law states that intensity of pressure at a point in a static fluid is equal in all directions?
 (A) Hydrostatic law (B) Euler's law
 (C) Pascal's law (D) Avogadro's law
20. Bernoulli's equation is applicable when it is assumed that :
 (A) Fluid is incompressible (B) Flow is steady and irrotational
 (C) Fluid is nonviscous (ideal) (D) All of these
21. Highest transmission voltage in India is :
 (A) 400 kV (B) 1200 kV
 (C) 600 kV (D) 765 kV
22. If eddy current loss of a single phase transformer at 115 V, 50 Hz is 40 W. What is the eddy current loss corresponding to 230 V, 50 Hz?
 (A) 160 W (B) 40 W
 (C) 80 W www.eemadeeasy.com (D) 90 W
23. The power input to a 3-phase induction motor is 100 kW. The stator losses total 1.5 kW. What is the mechanical power developed at a slip of 5.5%?
 (A) 95 kW (B) 90 kW
 (C) 98 kW (D) 93 kW

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24. Two - part tariff charges are for :

- (A) Units consumed
(B) Units and Power factor
(C) Units and power
(D) Units and Maximum KVA demand

† • 25. Rating of fuse wire is expressed in :

- (A) Watts
(B) Volts
(C) Amps
(D) Ohms

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26. An RLC series circuit with $R = 10\Omega$, $L = 1H$, $C = 1F$ are connected across a 100 V, variable frequency supply. Find the power factor and current at resonance :

- (A) 1, 10 A
(B) 0, 10 A
(C) 1, 15 A
(D) 0, 15 A

27. What is R.M.S value of a triangular voltage wave form having maximum magnitude of 10 V?

- (A) 7.07 V
(B) 5 V
(C) 5.77 V
(D) 10 V

28. A single phase energy meter is connected in a circuit with 230 V, 50 Hz and a load of 5 A working for 6 Hrs. at unity power factor. The meter makes 2000 revolutions during that period. The meter constant is :

- (A) 200 rev/kwhr
(B) 300/kwhr
(C) 150 rev/kwhr
(D) 275 rev/kwhr

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29. If the power in a 3-phase, 400 V, star-connected pure capacitive load is measured by using two watt meters, what will be its readings?

- (A) Both zeros
(B) equal but opposite
(C) One wattmeter reads zero
(D) both positive

30. Out of the given generating station which will be the base load station?

- (A) Nuclear
(B) Solar
(C) Hydro
(D) Thermal

*move from
one answer
is possible*

31. The sum of the binary numbers 1010 and 1111 is :

- (A) 10101
(B) 11111
(C) 11001
(D) 1010

32. The carrier of an amplitude modulated wave of frequency 800 KHz is simultaneously modulated by two sine waves with modulation indices 0.1 and 0.3 respectively, the total modulation index of the resultant wave is :

- (A) 0.1
(B) 0.5
(C) 0.7
(D) cannot be calculated

33. The amplitude of the side band of AM wave is :

- (A) Independent of modulation index
- (B) Independent of carrier amplitude
- (C) $\frac{1}{2} \times$ carrier amplitude \times modulation index
- (D) carrier amplitude \times modulation index

34. The minimum number of comparators required to build an 8-bit flash ADC is :

- (A) 256
- (B) 255
- (C) 63
- (D) 8

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35. Which one of the following is correct for basic transistor amplifier configurations?

- (A) CC amplifier has high input impedance and high current gain
- (B) CB amplifier has high input impedance and high current gain
- (C) CE configuration has low input impedance and low current gain
- (D) The current gain of CB amplifier is higher than that of the CC amplifier

36. Which of the following is an acceptor dopant?

- (A) Antimony
- (B) Arsenic
- (C) Germanium
- (D) Gallium

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37. Which one of the following is the correct statement?

- (A) The bridge rectifier has lower TUF than the centre tapped full wave rectifier
- (B) The bridge rectifier has better load regulation than the centre tapped full wave rectifier
- (C) The bridge rectifier is more preferred to the centre tapped full wave rectifier when larger output voltage is required
- (D) The bridge rectifier has better ripple factor than the centre tapped full wave rectifier

38. Which one of the following is NOT an advantage of negative feedback in amplifiers?

- (A) negative feedback increases the sensitivity of the amplifier
- (B) negative feedback increases the lower cut off frequency
- (C) negative feedback increases the output resistance of the amplifier
- (D) negative feedback increases the noise in amplifiers

39. Which of the following Boolean Algebra rule is correct?

- (A) $A + AB = A + B$
- (B) $A + \bar{A}B = A + B$
- (C) $A(\bar{A} + B) = A + B$
- (D) $A \cdot \bar{A} = 1$

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40. Which of the following flip flop is the best suited to be used as a latch?
(A) SR flip flop (B) JK flip flop
(C) T flip flop (D) D flip flop
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41. Which of the following is a volatile memory?
(A) RAM (B) ROM
(C) DVD (D) CD-ROM
42. What hardware was used by the first generation computer? — Ans: Vacuum Tubes
(A) Transistor (B) Valves
(C) ICs (D) VLSI
43. A step by step procedure used to solve a problem is called :
(A) system software (B) algorithm
(C) application program (D) function
44. The octal equivalent of 3DF is :
(A) 3176 (B) 1037
(C) 1287 (D) 1737
45. _____ is a collection of software routines used as an interface between user and computer.
(A) Compiler (B) Interpreter
(C) Operating system (D) Spooler
46. The program which converts the high level language to machine language is called :
(A) Assembler (B) Compiler
(C) Linker (D) Loader
47. Which of the following programming language was used for writing the popular operating system UNIX?
(A) C++ (B) Java
(C) C (D) PASCAL
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48. Arithmetic operations are coded in :
(A) Decision symbols (B) I/O symbols
(C) Processing symbols (D) Terminal symbols
49. A half byte is known as :
(A) bit (B) word
(C) nibble (D) half byte

- 50. Any method for controlling access to or use of memory is known as :
(A) Memory map (B) Memory protection
(C) Memory management (D) Memory instruction
51. In Tyler series, the ratio of the aperture size of a screen to that of the next smaller size is :
(A) $1/\sqrt{2}$ (B) $\sqrt{2}$
(C) 2 (D) 1.5
52. A sand mixture was screened through a standard 10 mesh screen. The mass fraction of the oversize material in feed, overflow and underflow were found to be 0.45, 0.6 and 0.2 respectively. The effectiveness of the screen based on oversize is :
(A) 0.9 (B) 0.68
(C) 0.83 (D) 0.62
53. Dissolved organic pollutants in water are generally removed by :
(A) Biological treatment (B) Evaporation
(C) Ion exchange (D) Membrane separation
- 54. Chemical Oxygen Demand (COD) of a wastewater sample indicate :
(A) Dissolved oxygen content (B) Amount of oxygen needed for saturation
(C) Amount of organic matter (D) Amount of readily oxidisable organic part
55. Permanent hardness of water can be removed by :
(A) Boiling (B) Settling
(C) Biological treatment (D) Ion exchange
56. A pipe of I.D. 10 cm is bifurcated into two pipes of I.D. 5 cm each. If the average velocity of the water flowing through the main pipe is 10 m/s, the average velocity of the water flowing through the bifurcated pipe is :
(A) 40 m/s (B) 20 m/s
(C) 14.14 m/s (D) 10 m/s
57. For ideal fluid flow the Reynolds number is :
(A) infinity (B) zero
(C) one (D) 2100

7x

58. The velocity profile for Bingham plastic fluid flowing under laminar conditions in a pipe is :
(A) Parabolic
(B) Flat
(C) Flat near the wall and parabolic in the middle
(D) Parabolic near the wall and flat in the middle
59. The hydraulic diameter of an annulus of inner and outer radii R_i and R_o respectively is :
(A) $4(R_o - R_i)$
(B) $\sqrt{R_o R_i}$
(C) $2(R_o - R_i)$
(D) $R_o + R_i$
60. A particle A of diameter 10 microns settles in an oil of specific gravity 0.9 and viscosity 10 poise under Stokes law. A particle B with diameter 20 microns settling in the same oil will have a settling velocity :
(A) Same as that of A
(B) One-fourth as that of A
(C) Twice as that of A
(D) Four times as that of A
61. Traditionally harvesting of paddy crop was commonly performed with the use of :
(A) Sickle
(B) Tractors
(C) Power tillers
(D) Combines
62. A heat engine is defined as a device which converts :
(A) one form of energy into useful work
(B) heat energy into useful work
(C) both
(D) none of the above
63. Average speed of the drum of a foot operated paddy thresher for maximum threshing efficiency is :
(A) 100 rpm
(B) 4000 rpm
(C) 1000 rpm = 980 rpm
(D) 400 rpm
64. In paddy, losses due to shredding and shattering of grains in the field can be considerably reduced when it is harvested between :
(A) 10 to 15% moisture content
(B) 23 to 25% moisture content
(C) 30 to 33% moisture content
(D) None of these
65. In thin layer drying the depth of grains is limited to :
(A) 50 cm
(B) 100 cm
(C) 60 cm
(D) 20 cm

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66. In surface method of irrigation water is applied directly from a :
- (A) pipe (B) channel
(C) drip head (D) sprinkler
67. Tractors are used for :
- (A) earth moving purposes (B) land clearing uses
(C) tillage purposes (D) all of these purposes
68. In air cooled engines fins are the components of :
- (A) Cooling system (B) Ignition system
(C) Fuel system (D) None of the above
69. Indented cylinder separator works on the principle of :
- (A) moisture of grain (B) colour of grains
(C) size of grains (D) none of these
70. Fly wheel in a Tractor works as :
- (A) To start the engine (B) As energy reservoir
(C) None of the above (D) Serves as smooth running

71. The statement which is not a correct difference between PERT and CPM is :
- (A) PERT is event oriented, CPM is activity oriented
(B) PERT is probabilistic, CPM is deterministic
(C) PERT emphasis is on project time, CPM's is on time and cost
(D) PERT is repetitive, CPM is not repetitive
72. The tools generally used in capacity planning decisions are :
- (A) Waiting line models, simulation and decision tree
(B) EOQ models, Layout models and Gantt Chart
(C) Waiting line models, variance analysis and Gantt chart
(D) None of the above
73. The right statement about SWOT analysis is :
- (A) SWOT is an analysis of the external factors of a firm
(B) SWOT is an internal environment analysis tool
(C) SWOT is an analysis internal and external factors of an organization
(D) None of the above

A

74. Cash flow statement is a summary of the :

- (A) Cash receipts and payments of an organization for a given period
- (B) Cash receipts and funds from operations for a given period
- (C) Cash receipts and all changes in working capital for a given period
- (D) None of the above

• 75. Break even analysis is a direct tool for assessing :

- (A) Capacity planning of a plant
- (B) Service quality of a firm
- (C) Tensile strength of a material
- (D) Viability of a firm

76. The three essential skills or competences required for a manager according to Robert L Katz are :

- (A) Technical Skills, Human Skills and Communication Skills
- (B) Human Skills, Communication Skills and Leadership Skills
- (C) Conceptual Skills, Human Skills and Technical Skills
- (D) None of the above

77. Which set of attributes is a good description of a traditional organization :

- (A) Stable, command oriented and hierarchical
- (B) Dynamic, flexible and team oriented
- (C) Rule oriented, skills focused and diverse
- (D) None of the above

• 78. Of the following, the set of tools not used for conflict resolution is :

- (A) Avoidance, smoothing and compromise
- (B) Problem solving, super ordinate goals and altering the human variable
- (C) Authoritative command, expansion of resources and altering the structural variables
- (D) None of the above

79. Forecasting is :

- (A) The basis for control
- (B) The basis for planning
- (C) Based on plan for a future period
- (D) None of the above

• 80. An example for attribute based qualify control chart is :

- (A) Mean Chart
- (B) C Chart
- (C) Range chart
- (D) None of the above

• 81. Which fruit is known as *Food of the Gods*?

- (A) Banana
- (B) Pine Apple
- (C) Apple
- (D) Mango

A or D
Can be answer

- 82. The first Cinema Museum in India :
(A) Bombay (B) Delhi
(C) Thiruvananthapuram (D) Kolkatta www.eemadeeasy.com
83. Which daily of Kerala banned for the first time on political Grounds?
(A) Swadeshbhimani (B) Mathrubhumi
(C) Deepika (D) Sandishtavadi
84. The Ayalkkootam project was firstly introduced in Kerala :
(A) Alappuzha (B) Kallyasseri
(C) Mananthavadi (D) Pulamanthole
85. Tamilnadu introduced The Right to Information Act :
(A) 1996 (B) 2005
(C) 2008 (D) 2000
86. *Lokamanyan* was published in :
(A) 1921 (B) 1960
(C) 1920 (D) 1848 www.eemadeeasy.com
87. Thykkad Ayya Vaikundar wrote the Book :
(A) Smriti Lahari (B) Vasantha Malika
(C) Hanuman (D) Ravanan
88. Kadathanattu Madhavi Amma was the Editor of :
(A) Yukthivadi (B) Samadarshi
(C) Prabhatham (D) Murali
89. Nelson Mandela Award 2016 :
(A) Tabasum Adnan (B) Malala Yousuf Shai
(C) Kailesh Tripadi (D) James Cameroon
90. The new name of Gudgaon of Haryana :
(A) Mevat (B) Naha
(C) Gurugram (D) Banshi
91. The Editor of *Rasikaranjini* :
(A) Kodungallur Kunjikkuttan Thamburan
(B) Ulloor. S. Parameswara Ayyar
(C) Mundasseri
(D) G. Subrahmannia Ayyar www.eemadeeasy.com

92. *Tharaharam* is a work of :
(A) Pandit Karuppan (B) Ayyankali
(C) Ulloor (D) M. Leelavathy
93. Who known in the pen name *Keralan*?
(A) Pandit Karuppan
(B) Swedeshabhimani Ramakrishna Pillai
(C) K. Damodaran
(D) Kesari Balakrishna pillai
94. *Arjuna Nritham* (Dance of Arjuna) was popular in :
(A) Kottayam (B) Idukki
(C) Palakkad (D) Kannur
95. Who was known as *Krithava Kalidasan*?
(A) Kandathil Varghese Mappila (B) M.V. Paulose
(C) Arnose Pathiri (D) Kattakkayam Cheriyan Mappila
96. *Kavithilakan* :
(A) Ananda Theertham
(B) Kodungallur Kunjikkuttan Thampuran
(C) Pandit Karuppan
(D) Changampuzha
97. Article 371(i) a special provision is given to the state of :
(A) Andhra pradesh (B) Manipur
(C) Goa (D) Nagaland
98. Lakkadavala Committee is related to :
(A) Demography (B) Poverty Line
(C) Share Market (D) Consumerism
99. Which one of the following councils was a part of the drafting of Indian Constitution?
(A) Accounts Committee (B) Interim council
(C) Civil right council (D) Committee on Supreme Court
100. When did Calicut declared the first Litter-Free City in India?
(A) 12th August 2005 (B) 12th August 2000
(C) 1st November 2005 (D) 5th September 2008

Kozhikode was declared as 1st litter free city in 2004.