

1. The Constituent Assembly met for the first time on 9th December in which year ?
A) 1947 B) 1946 C) 1950 D) 1949
2. 'Objective Resolution' drafted and moved by Pandit Jawaharlal Nehru in the Constituent Assembly on
A) 13 December, 1946 B) 30 January, 1946
C) 26 January, 1950 D) 3 December, 1950
3. First Delimitation Commission was setup in India on
A) 1976 B) 1955 C) 1951 D) 1960
4. The Prime Minister's Secretariat was renamed into Prime Minister's Office at the time of
A) P. V. Narasimha Rao B) Jawaharlal Nehru
C) V. P. Singh D) Morarji Desai
5. Who fixes the number of Judges in the Supreme Court ?
A) The President B) The Chief Justice
C) The Parliament D) Vice President
6. Malayalam newspaper 'Paschimodayam' published in 1847 by
A) Maman Mapilla B) Ramakrishna Pilla
C) Benjamin Bailey D) Herman Gundert
7. Kallumala agitation associated with
A) Dress Code B) Educational Reform
C) Political Changes D) Temple Entry
8. Name the work of K. Damodaran.
A) Ritumati B) Pattabakhi
C) Adukkalayil ninum Arangathekku D) Mathilukalkkapuram
9. Who has not participated in Vaikkam Sathyagraha ?
A) K. Kelappan B) K. P. Kesava Menon
C) A. K. Gopalan D) Mannath Padmanabhan
10. Who among the following became the member of 'Malayala Pradesh Congress Committee' ?
A) Kuttimalu Amma B) Kittur Channamma
C) Captain Lakshmi D) Akkama Cherian
11. Father of Indian Unrest
A) Lala Lajpat Rai B) Bhagat Singh
C) Bipin Chandra Pal D) Bal Gangadhar Tilak
12. Mathikettan Shola National Park is situated in which District ?
A) Wayanad B) Idukki C) Palakkad D) Pathanam Thitta

123/2016

13. Bhakra Nangal Dam is across which river ?
A) Kaveri B) Mahanadi C) Satluj D) Krishna
14. Current General Manager of South Eastern Railway
A) A. K. Goel B) S. Gehlot C) A. Datta D) B. K. Jain
15. Which company has launched BBM money transfer service in India ?
A) Microsoft B) Sony C) Apple D) Black Berry
16. Who among the following is not the Goodwill Ambassador of India in Rio Olympics ?
A) Sachin Tendulkar B) Abinav Bindra
C) Sushil Kumar D) Salman Khan
17. 2015 Kendra Sahitya Academy Award Winning Book
A) Agnisakshi B) Ratrimazha
C) Marannu Vecha Vasthukal D) Aarachaar
18. Which is known as Indian Education Commission ?
A) Kothari Commission B) Mudaliar Commission
C) Radhakrishnan Commission D) Saikia Committee
19. 'Tamasa' is the dance form of
A) Gujarat B) Rajasthan C) Maharashtra D) Bihar
20. Which day was celebrated as National Education Day ?
A) September 10 B) November 11 C) October 2 D) December 20
21. If $\vec{v} = x^2 \hat{i} + y^2 \hat{j} + z^2 \hat{k}$, find $\text{div}(\text{curl } \vec{v})$.
A) 0 B) $2(x + y + z)$
C) $2(x\hat{i} + y\hat{j} + z\hat{k})$ D) 1
22. Find the Laplace transform of $\cosh at$
A) $\frac{s}{s^2 + a^2}$ B) $\frac{a}{s^2 - a^2}$ C) $\frac{s}{s^2 - a^2}$ D) $\frac{a}{s^2 + a^2}$

23. Find the rank of $\begin{bmatrix} 200 \\ 020 \\ 002 \\ 000 \end{bmatrix}$

A) 2

B) 3

C) 8

D) 0

123/2016

33. Two mating spur gears have 40 and 120 teeth respectively. The pinion rotates at 1200 rpm and transmits a torque of 20 Nm. The torque transmitted by gear is
A) 80 Nm
B) 30 Nm
C) 40 Nm
D) 60 Nm
34. Misrun is a casting defect which occurs due to
A) Very high pouring temperature of the molten metal
B) Insufficient fluidity of the molten metal
C) Absorption of gases by the liquid metal
D) Improper alignment of the mould flasks
35. Which of the following arc welding process does not use consumable electrode ?
A) GTAW
B) GMAW
C) SAW
D) None of these
36. A 500 kVA transformer has full load efficiency of 95% at UPF. It gives the same efficiency at 60% of full load and at UPF. The iron loss of the transformer is
A) 10.35 kW
B) 9.87 kW
C) 9.08 kW
D) 10.71 kW
37. Leakage flux in an induction motor is the flux that
A) Links stator and rotor windings
B) Leaks through the machine
C) Links stator winding or the rotor winding but not both
D) Links none of the windings
38. It is desired to have a constant direct current through an ideal inductor, the nature of the voltage source must be
A) Constant voltage
B) Linearly increasing voltage
C) Exponentially increasing voltage
D) An ideal impulse
39. A filament bulb rated at 500 W, 100 V is to be connected in series with capacitance across 220 V, 50 Hz supply. What will be the value of the capacitor such that the voltage across the bulb and the power consumed by the bulb are according to the rating of the bulb ?
A) 78 μF
B) 81 μF
C) 90 μF
D) 86 μF
40. In delta to star transformation, if the three elements of the delta connection are scaled by a factor 'm', $m > 0$, the elements of the corresponding star equivalent will be scaled by a factor of
A) m^2
B) \sqrt{m}
C) $1/m$
D) m

A

41. In an OPAMP out offset voltage due to input offset current is given by

A) $V_o = I_{lo} R_i$

B) $V_o = I_{lo} \frac{R_f}{R_i + R_f}$

C) $V_o = I_{lo} R_f$

D) $V_o = -I_{lo} R_i$

42. For a PN diode, maximum reverse bias potential that can be applied before entering a zener region is called

A) Break down voltage

B) Peak inverse voltage

C) Reverse bias voltage

D) None of the above

43. In a fullwave rectifier the DC voltage is given by

A) $V_{dc} = 0.318 V_m$

B) $V_{dc} = 0.836$

C) $V_{dc} = 0.218 V_m$

D) $V_{dc} = 0.636 V_m$

44. Frequency of oscillation for an RC phase shift oscillator is given by

A) $f = \frac{1}{2\pi RC \sqrt{6 + \frac{4R_c}{R}}}$

B) $f = \frac{1}{2\pi RC}$

C) $f = \frac{1}{2\pi RC \sqrt{4 + \frac{6R_c}{R}}}$

D) $f = \frac{1}{2\pi \sqrt{RC}}$

45. If delay line is not used in vertical section of a CRO

A) Initial Part is lost

B) Final Part is lost

C) No signal in the display

D) Always shows a horizontal line

46. What will be the output of the following program ?

```
void main()
{
int i=1;
printf("%d", i==++i==1);
}
```

A) 0

B) 1

C) 2

D) error

123/2016

47. What will be the value of 'f' after the execution of the following program ?

```
void main()
{
char a;
float f = 10;
for(a=1; a<=5;a++)
{ f-=.2; }
printf("nf=%g",f);
}
```

A) 5.0

B) 9

C) 9.0

D) error

48. What will be the output of the following program ?

```
#define abc(x,y) x*y
void main()
{
int a=1, b=2;
printf("%d",abc(a+1,b-2));
}
```

A) 0

B) 1

C) 2

D) 3

49. Which statement is added to the following program such that address of "r1" gets stored in "r2" ?

```
void main()
{
int*r2;
void abc(int **);
abc(&r2);
printf("%d", *r2);
}
void abc(int **r3)
{
int r1=5;
/*add statement here*/
}
```

A) *r2 = &r1

B) *r1 = &r3

C) *r3 = &r1

D) none of the above

50. The CPU can also be called as

A) Processor hub

B) ISP

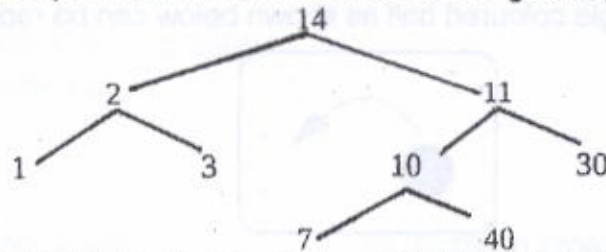
C) Node

D) All the above

51. Numbers are represented in a computer in 2's complement because
- It requires less storage
 - There is a unique representation for zero
 - It produces less error when compared to other representations
 - None of the above
52. Which of the following is equivalent to the expression $(\overline{A+B}) \cdot (\overline{A \cdot B}) \cdot (A+B)$?
- F
 - T
 - $\overline{A+B}$
 - $\overline{A \cdot B}$
53. Which of the following is an example of a combinational logic circuit ?
- MUX
 - Adder
 - Counter
 - Decoder
54. Which of the following is an example of a synchronous interrupt ?
- Keyboard interrupt
 - Pushing the reset button
 - Divide by zero
 - None of the above
55. Which of the following is true ?
- Every instruction will have atleast one machine cycle
 - The opcode of an instruction can never be one byte long
 - Every instruction has opcode fetch and memory read operation
 - None of the above
56. Matrix manipulation and sorting can be easily performed by which of the type of computer ?
- SISD
 - MIMD
 - MISD
 - SIMD
57. Operand forwarding helps to overcome
- Branch hazards
 - Data hazards
 - Both A) and B)
 - None of the above
58. Which of the flags will be affected by the instruction INC AL, if AL = FFH ?
- Zero, Carry
 - Zero, Auxiliary Carry, Carry, Overflow
 - Zero only
 - Carry only
59. Which of the following methods is best suited for transferring 250 MB of data from hard disk to memory ?
- Polling
 - DMA
 - Interrupt
 - None of the above
60. Which of the following is not true for a microcontroller ?
- Microcontrollers have special instructions for bit manipulation
 - They are commonly used in embedded systems
 - Microcontrollers with Harvard architecture are available
 - Microcontrollers cannot run without external memory

72. Which of the following is likely to be the most expensive cost of quality in Software Engineering ?
- A) External Failure Cost B) Appraisal Cost
C) Internal Failure Cost D) Prevention Cost

73. Which is the correct preorder traversal of the following binary tree ?



- A) 14, 2, 1, 3, 11, 10, 7, 30, 40 B) 14, 2, 3, 1, 11, 10, 30, 7, 40
C) 1, 2, 3, 7, 10, 11, 14, 30, 40 D) 40, 30, 14, 11, 10, 7, 3, 2, 1
74. Suppose we're debugging a quicksort implementation that is supposed to sort an array in ascending order. After the first partition step has been completed, the contents of the array are in the following order :
- 3 9 1 18 19 24 22 20
- Which of the following statements is correct about the partition step ?
- A) The pivot could have been 18, but could not have been 19
B) The pivot could have been 19, but could not have been 18
C) The pivot could have been either 18 or 19
D) Neither 18 nor 19 could have been the pivot
75. Suppose you were implementing a data structure to store information about the paintings on display at an art dealer's showroom. Of the following data structures, which one is the right one to use ?
- A) Unordered array B) Sorted array
C) Binary search tree D) It depends

76. What is the running time of the following code fragment ?

```
for(int i = 0; i < 10; i++)
```

```
for(int j = 0; j < N; j++)
```

```
for(int k = N-2; k < N+2; k++)
```

```
cout << i << " " << j << endl;
```

A) $O(\log N)$

B) $O(N)$

C) $O(N \log N)$

D) $O(N^2)$

77. Breadth first search

- A) Scans each incident node along with its children
B) Scans all incident edges before moving to other node
C) Is same as back tracking
D) Scans all the nodes in random order