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CPRI

**Previous Year Paper
Technician Grade 1
19 Dec, 2022**





CPRI EXAMINATION

Candidate User ID (as

Test Centre Name :

Exam Date : 19/12/2022

Exam Timing : 1:00 PM - 2:30 PM

Exam Name : TECHNICIAN GRADE 1

Note: Questions answered are highlighted with selection

1 Rajesh has two varieties of rice A and B in the ratio 3: 4 respectively such that the quantity of rice of type A is 3 kg less than quantity of rice of type B. If the cost of rice of type A and B are Rs.30 per kg and Rs.20 per kg respectively, then what will be the average cost of total quantity of rice?

- Rs.22.56
- Rs.24.28 (Correct Answer)
- Rs.26.78
- Rs.27.33

2 In the sentence, identify the segment which contains a grammatical error.

Finding water is the mission for Chandrayaan-2, and it has three experiments special designed for this hunt.

- Is the mission
- Special designed (Correct Answer)
- For this
- It has

3 Who has been appointed as Chairman and Managing Director of Bharat Petroleum Corporation Limited (BPCL) in 2022?

- Sandeep Ahluwalia
- Rajendra Khattar
- VR Krishna Gupta (Correct Answer)
- Madhav Mishra

4 Who has won the Mexican Formula 1 Grand Prix 2022?

- C. Sainz Jr.
- G. Russell
- Max Verstappen (Correct Answer)
- Pietro Fittipaldi

5 In the following passage, some of the words have been left out and replaced by a blank represented by a letter. First, read the passage and try to understand what it is about. Then fill in the blanks as per the questions given.

Every afternoon ___ (A) ___ sunset, at a point midway along the arrow-straight road between Amritsar and Lahore, rival squads of ___ (B) ___ uniformed soldiers strut and stomp a 17th-century British military drill known as Beating Retreat (pictured). Barked commands, ___ (C) ___ glares and preposterously high kicks all signal violent intent. But then, lovingly and in ___ (D) ___, the enemies lower their national flags. Opposing guardsmen ___ (E) ___ shake hands, and the border gates roll shut for the night.

Select the most appropriate option for blank B.

- splendidly (Correct Answer)
- unaesthetically
- gladly
- elatedly

6 From the options given below, Choose the correct Birthplace of Gautam Budha.

- Lumbini (Correct Answer)
- Kushinagar
- Sarnath
- Bodhgaya

7 Which of the following is an example of emulsion?

- Smoke
- Jelly
- Mist
- Milk (Correct Answer)

8 How many kingdoms are there in the classification that Robert Whittaker had proposed?

- 3
- 5 (Correct Answer)
- 8
- 10

9 Which answer figure will complete the pattern in the question figure?



(Correct Answer)

10

In the question below, there are two statements followed by four conclusions given in options. You have to take the given statements to be true even if they seem to be at variance with commonly known facts and then decide which of the given conclusion logically follow(s) from the given statements.

Statements:

All months are Septembers

All months are Octobers.

Conclusions:

(A) Some Octobers are Septembers.

(B) All Septembers are Octobers.

(C) All Octobers are months.

(D) All Septembers are months.

- A (Correct Answer)
- B
- C
- D

11 Four numbers are in the ratio 1/3:1/4:1/5:1/6. If the difference between the smallest and the largest number is 70, find the sum of the middle two numbers.

- 189 (Correct Answer)
- 210
- 175
- 180

12 In the following question, select the related letters from the given alternatives. LION : PMSR :: BOWL : ?

- FSAO
- FASB
- FSAP (Correct Answer)
- FSBP

13 In the following passage, some of the words have been left out and replaced by a blank represented by a letter. First, read the passage and try to understand what it is about. Then fill in the blanks as per the questions given.

Every afternoon ___ (A) ___ sunset, at a point midway along the arrow-straight road between Amritsar and Lahore, rival squads of ___ (B) ___ uniformed soldiers strut and stomp a 17th-century British military drill known as Beating Retreat (pictured). Barked commands, ___ (C) ___ glares and preposterously high kicks all signal violent intent. But then, lovingly and in ___ (D) ___, the enemies lower their national flags. Opposing guardsmen ___ (E) ___ shake hands, and the border gates roll shut for the night.

Select the most appropriate option for blank D

- discord
- unity
- unison (Correct Answer)
- unlikeness

14 In the below questions, a sentence has been given in "Active Voice". Out of the four alternatives suggested, select the one which best expresses the same sentence in "Passive Voice".

Who has broken this vase?

- By whom is this vase broken?
- By whom has this vase been broken? (Correct Answer)
- By whom was this vase broken?
- By whom had this vase been broken?

15 'Breast stroke', 'Butterfly stroke' and 'Back stroke' are terminologies related to which of the following?

- Volleyball
- Swimming (Correct Answer)
- Baseball
- Ice-Hockey

16 The Cardamom Hills are regarded as the continuation of the -

- Satpuras
- Aravallis
- Western Ghats (Correct Answer)
- Eastern Ghats

If the following interchanges are made in signs and numbers, then which equation would be correct?

interchanges:

Signs: x and =

Numbers: 4 and 5

- 10 + 2 - 4 x 3 = 8 ÷ 5
- 12 ÷ 3 x 4 - 8 = 5 + 7
- 16 - 7 ÷ 4 x 21 + 6 = 5
- 19 - 20 ÷ 5 x 4 + 3 = 3 (Correct Answer)

18 In which year was Kannauj attacked by Mahmud of Ghazni?

- 1000 AD
- 915 AD
- 1018 AD (Correct Answer)
- 1101 AD

19

M, N, P, R, T, W, F and H are sitting around a circle at the centre, P is third to the left of M and second to the right of T. N is second to the right of P. R is second to the right of W who is second to the right of M. F is not an immediate neighbour of P.

Who is to the immediate right of P?

- H (Correct Answer)
- F
- R
- W

20

In the following passage, some of the words have been left out and replaced by a blank represented by a letter. First, read the passage and try to understand what it is about. Then fill in the blanks as per the questions given.

Every afternoon ___ (A) ___ sunset, at a point midway along the arrow-straight road between Amritsar and Lahore, rival squads of ___ (B) ___ uniformed soldiers strut and stomp a 17th-century British military drill known as Beating Retreat (pictured). Barked commands, ___ (C) ___ glares and preposterously high kicks all signal violent intent. But then, lovingly and in ___ (D) ___, the enemies lower their national flags. Opposing guardsmen ___ (E) ___ shake hands, and the border gates roll shut for the night.

Select the most appropriate option for blank E

- cognitively
- critically
- formidably
- curtly (Correct Answer)

21 'S' in BRICS i.e. association of countries stands for _____.

- Singapore
- Sweden
- South Africa (Correct Answer)
- Seychelles

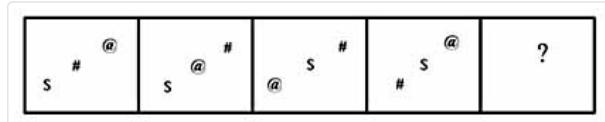
22 Select the related word from the given alternatives. Dal lake : Jammu and Kashmir :: Salim Ali Lake : ?

- Gujarat
- Punjab
- Goa
- Maharashtra (Correct Answer)

23 Which is the wrong letter cluster in the following number series? PCD, QEF, VGH, SIJ, TKL, UMN

- VGH (Correct Answer)
- SIJ
- TKL
- QEF

24 Select the figure that will come next in the following series:



-
-
-
- (Correct Answer)

25 Ratio of cost price and marked price of an item is 3: 5 respectively. If shopkeeper gave a discount of 16% on its marked price, then find the profit%/loss% at which item is sold.

- 25%
- 40% (Correct Answer)
- 35%
- 30%

26 Which of the following dynasties had built the Golconda fort?

- Chalukya dynasty
- Kakatiya dynasty (Correct Answer)
- Slave dynasty
- Khilji dynasty

27 What should come in place of the question mark (?) in the following question? $(9576 \div 21) \times (462 \div 42) - 563 \times 8 = ?^3$

- 5
- 7
- 8 (Correct Answer)
- 3

28 Fill in the blank with the Correct option in the context.

It is said that the morning hours are the _____ time for studying.

- ideal (Correct Answer)
- idle
- idea
- idol

29 Choose the correct state from below where Kuchipudi dance has been originated

29 Choose the correct state from below, where Kuchipudi dance has been originated.

- Tamil Nadu
- Kerala
- Madhya Pradesh
- Andhra Pradesh (Correct Answer)

30

In the question below are given some statements followed by two conclusions numbered I and II. You have to take the given statements to be true even if they seem to be at variance from commonly known facts.
Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts

Statements:
Some bags are zips.
All zips are hips.

Some hips are clips

Conclusions:

- I. Some clips are bags.
- II. Some hips are bags.

31 In a certain code language, 'FRUITFUL' is written as 'HTWKVHWN'. How will 'VILLAGE' be written as in that language?

- XKNGCIN
- YKNOCIG
- XKNNGIC
- XKNNCIG (Correct Answer)

32 Who is the author of the book "The Lord of the Rings"?

- Charles Dickens
- Harper Lee
- George Eliot
- J. R. R. Tolkien (Correct Answer)

33 Subansiri, Jia Bhareli and Dhansiri are the tributaries of -

- Ganga
- Brahmaputra (Correct Answer)
- Godavari
- Krishna

34 Select the correct mirror image of the given figure when the mirror is placed to the right of the figure:





35 If $3\% \text{ of } 5\% \text{ of } 12000 = a + b$ and $b\% \text{ of } 480\% \text{ of } 400 = 24a$, then what is the value of $5a\% \text{ of } (20 + b)$?

- 12 (Correct Answer)
- 15
- 18
- 20

36 Choose the word from the options that is opposite in meaning to the given word.
"Opprobrium"

- Disgrace
- Fragmentation
- Vilification
- Praise (Correct Answer)

37 Maize is an example of _____.

- Epiphyte
- Mesophyte (Correct Answer)
- Hydrophyte
- Xerophyte

38 Train 'X' is running with speed 108 km/hr and crosses train 'Y' which is running in the same direction as X in 80 seconds. If the length of train Y is half of the length of train X and the speed of train Y is 81 km/hr, then what is the length of train X (in metres)?

- 200
- 600
- 400 (Correct Answer)
- 1440

39 A six-digit number 749xyz is divisible by 9, 11 and 4, then what is the value of $\{3x - (4y + 5z)/2x\}$? [Assume $x \neq z$]

- 12
- 13
- 14 (Correct Answer)
- 11

40 A regular hexagonal base prism has height 12 cm, and side of base is 8 cm. What is the total surface area (in cm^2) of the prism?

- $192(\sqrt{3} + 2) \text{ cm}^2$
- $196(\sqrt{3} + 4) \text{ cm}^2$
- $192(\sqrt{3} + 3) \text{ cm}^2$ (Correct Answer)
- $196(\sqrt{3} + 2) \text{ cm}^2$

41 Find the missing number in a series given below: 11, 4, 16, 49, 169, ?

- 225
- 256 (Correct Answer)
- 625
- 100

42 Select the wrongly spelt word.

- dominion
- persecute
- solitary (Correct Answer)
- strangled

43 The average of the present ages of Amrish and Anisha is 28 years. After 22 years, Anisha's age will be one and a half times of her sister Amrita's present age. Find the average of present ages of Amrita and Anisha if Amrish's age 7 years ago was 23 years

- 32 years
- 28 years
- 30 years
- 29 years (Correct Answer)

44 In the sentence, identify the segment which contains a grammatical error.

Some study reveal that 21 big cities in India will run out of groundwater sometime in 2020, affecting over 100 million people.

- Some study reveal (Correct Answer)
- Will run out
- Affecting over
- Big cities

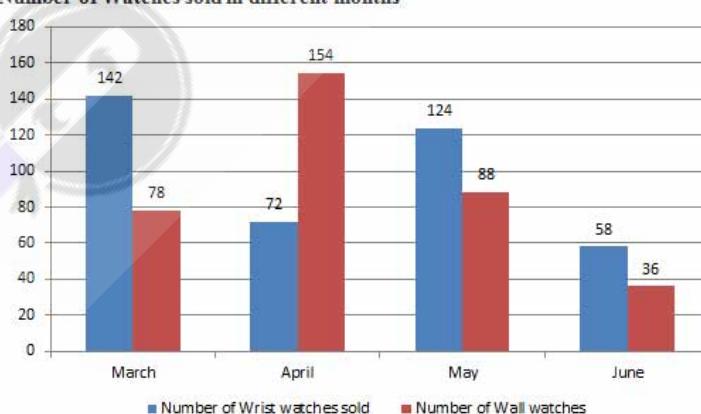
45 Choose the word from the options that is most similar in meaning to the given word.

"Guile"

- Compassion
- Artfulness (Correct Answer)
- Ingloriusness
- Honesty

46 The graph given below shows the number of watches (Wrist watches + Wall watches) sold in different months of a year by a Watch shop.

Number of Watches sold in different months



The total number of watches sold in March is 25% more than the total number of watches sold in February, then find the total number of watches sold in February.

- 156
- 164
- 184
- 176 (Correct Answer)

47 In the question given, relations between different elements are shown in the statements. These statements are followed

by two conclusions. Find out which of the given conclusions follow(s) the given statements. And select the correct alternative from the given choices.

Statements:

$$O > Z \geq L > Y; U = Y > H \geq P$$

Conclusions:

I. $Z > H$

II. $P \geq U$

Only conclusion I is true (Correct Answer)

Only conclusion II is true

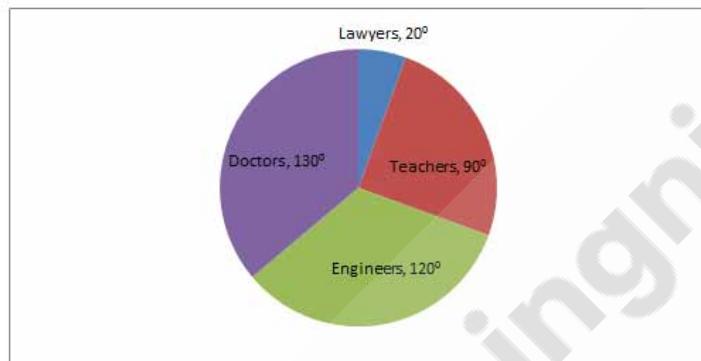
Either conclusion I or II is true.

Neither conclusion I nor II is true

48

The given pie chart shows the distribution of number of adults in a city by their profession.

Total Adults in the city = 108000



If 25% lawyers, 60% teachers, 20% engineers and 45% doctors are females, then find the total number of females in the city.

36850

39240

40060

42450 (Correct Answer)

49

The work done by $(x + 3)$ men in $(3x + 1)$ days and the work done by $(3x + 1)$ men in $(2x - 3)$ days are in the ratio 3: 5. In how many days $(x + 3)$ men do $(8x^2 + 9)$ work?

172

85

171 (Correct Answer)

86

50

In a row of children, Aamna is 9th from the left end and Kamana is 13th from the right end. If their positions are interchanged, Aamna becomes 18th from the left. What is the new position of Kamana from the right end of the row?

22 (Correct Answer)

25

27

33

51

In the following passage, some of the words have been left out and replaced by a blank represented by a letter. First, read the passage and try to understand what it is about. Then fill in the blanks as per the questions given.

Every afternoon (A) sunset, at a point midway along the arrow-straight road between Amritsar and Lahore, rival squads of (B) uniformed soldiers strut and stomp a 17th-century British military drill known as Beating Retreat (pictured). Barked commands (C) glares

and preposterously high kicks all signal violent intent. But then, lovingly and in (D), the enemies lower their national flags. Opposing guardsmen (E) shake hands, and the border gates roll shut for the night.

Select the most appropriate option for blank A.

- on
- at (Correct Answer)
- along
- in

52 If side of the square is increased by 5 cm, then its area increases by 175 cm^2 . What is the perimeter of original square?

- 24 cm
- 48 cm
- 50 cm
- 60 cm (Correct Answer)

53 In the following passage, some of the words have been left out and replaced by a blank represented by a letter. First, read the passage and try to understand what it is about. Then fill in the blanks as per the questions given.

Every afternoon ____ (A) ____ sunset, at a point midway along the arrow-straight road between Amritsar and Lahore, rival squads of ____ (B) ____ uniformed soldiers strut and stomp a 17th-century British military drill known as Beating Retreat (pictured). Barked commands, ____ (C) ____ glares and preposterously high kicks all signal violent intent. But then, lovingly and in ____ (D) ___, the enemies lower their national flags. Opposing guardsmen ____ (E) ____ shake hands, and the border gates roll shut for the night.

Select the most appropriate option for blank C.

- diverting
- witty
- preposterous
- fierce (Correct Answer)

54 Fill in the blank with the correct word.

Though he has failed many times, he is still trying to achieve success. His perseverance is commendable.

- decision
- perseverance (Correct Answer)
- innocence
- freedom

55 National Cancer Awareness Day is observed every year on which day?

- 10th November
- 9th November
- 8th November
- 7th November (Correct Answer)

56 From the given responses, find the missing term in the series. DaC, FeH, HiO, JmU, ?

- LQw
- pLC
- Qlv
- LgA (Correct Answer)

57 The compound interest on a sum of Rs 7200 at same rate of interest is more than the simple interest on the same sum at the same rate of interest after two years is Rs.162. What is the rate of interest?

12%

- 9%
- 15% (Correct Answer)
- 18%

58 Select the option that will improve the bracketed part of the sentence. In case no improvement is needed, select 'No improvement'.

Just try and recall the poor people you (have seen on the) streets, in local trains, and in slums.

- had saw on the
- have seeing on the
- have been see on the
- No improvement (Correct Answer)

59 What should come in place of the question mark (?) in the following question?

$$(169)^3 \div (2197)^4 \times (13)^{13} = (13)^{?+5}$$

- 6
- 4
- 2 (Correct Answer)
- 5

60 In the below question, a sentence has been given in "Direct Speech". Out of the four alternatives suggested, select the one which best expresses the same sentence in "Indirect Speech".

"Let's go and have some tea," said Daisy.

- Daisy commanded that we go and have some tea.
- Daisy requested that we go and had some tea.
- Daisy suggested that we should go and have some tea. (Correct Answer)
- Daisy told us that we go and have some tea.

61 What is the current rating of 25 mm² copper cable at 65°C? The circuit is 3-phase AC, and the cable is provided with coarse excess current protection. The cable is run in conduit.

- 26.7A
- 27 A
- 27.6 A (Correct Answer)
- 28.6 A

62 Which type of looping of the phase wire is preferred for lodges where rooms are constructed on either side of a common corridor?

- Looping out from switch and ceiling rose
- Looping out from the switch
- Looping out from a 3-plate ceiling rose
- Looping out with junction box (Correct Answer)

63 Which of the following describes the term "SHITSURE" in the 5s approach of cleaning and maintaining a workshop?

- Systematic arrangement
- Shine cleanliness
- Self-discipline (Correct Answer)
- Sorting out

64 What is the value of voltage across a 21 Ω resistor when 7 A current flows through it?

- 147 volts (Correct Answer)
- 3 volts
- 0.33 volts
- 28 volts

65 Which type of material converts sunlight into electrical energy?

- Polycrystalline material
- Photovoltaic cells (Correct Answer)
- Amorphous material
- Single crystalline material

66 If the hydrometer reading is _____, the cell condition is 50% charged.

- 1.15
- 1.2 (Correct Answer)
- 1.3
- 1.26

67 On which one important respect does DC and AC generators are similar?

- Both generate current in same direction
- Both generate less loss
- Both generate alternating power output
- Both generate alternating emf in the armature conductors (Correct Answer)

68 Which type of fire extinguisher contains a fork-shaped nozzle?

- Water-filled extinguisher
- Foam extinguisher
- Dry powder extinguisher (Correct Answer)
- Halon extinguisher

69 Which of the following can be a possible cause for the production of steam in hot water while using a geyser?

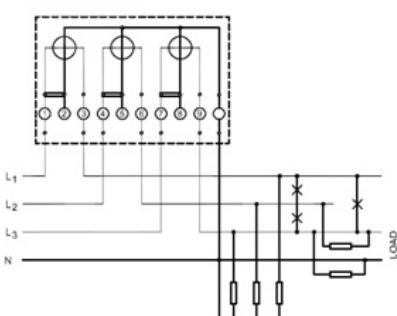
- Grounded heating element (Correct Answer)
- Leaking faucets
- Open circuit
- Scale deposit on heating units

70 Which type of primary cells uses a zinc container for the negative electrode and a manganese dioxide cylinder for the positive electrode?

- Leclanche cell
- Alkaline cell (Correct Answer)
- Lithium cell
- Mercury cell

71

Which type of wattmeter is indicated in the circuit diagram below?



- 2-element 3-wire type
- 3-element 2-wire type
- 3-element 3-wire type
- 3-element 4-wire type (Correct Answer)

72 What is the luminous efficiency of a 75-watt light bulb producing 1100 lumens?

- 14.66 lumen/watt (Correct Answer)
- 16.46 lumen/watt
- 68.18 lumen/watt
- 13.86 lumen/watt

73 Which type of cells is often used in digital watches, calculators, and other miniature electronic types of equipment?

- Mercury cells (Correct Answer)
- Alkaline cells
- Leclanche cells
- Dry cell

74 What is the position of the pointer in a megger when it is not in use?

- Zero
- Infinity
- Middle
- Anywhere on the scale (Correct Answer)

75 Which of the following material has four electrons in its valence shell?

- Silicon (Correct Answer)
- PVC
- Eureka
- Nichrome

76 A 3-phase, 400V, 50 HZ, delta-connected induction motor draws a line current of 140 amps with a P.F. of 0.80 and is delivering an output of 100 (Metric) HP. Calculate the efficiency.

- 96.5%
- 94.7% (Correct Answer)
- 92.5%
- 94.5%

77 What is the name of the device which is used to measure the insulation resistance?

- A common tester
- Megger (Correct Answer)
- Multimeter
- Simple meter

78 How much amount of resistance should be measured between the emitter and collector for a good transistor?

- High
- Low
- Very high (Correct Answer)
- Very low

79 Which is the most suitable flux to be used when soldering iron and steel at a low temperature?

- Rosin
- Tallow
- Zinc chloride (Correct Answer)
- Diluted hydrochloric acid

80 Which of the following installation testing is conducted to check whether switches are connected in phase cable or not?

- Open circuit test
- Polarity test (Correct Answer)
- Earth and ground test

Insulation and leakage test

81 Which of the following sections of part 1 of the National Electrical Code-2011 covers information about the graphical symbols for diagrams, letter symbols, and signs to be used as reference?

- Section 2
- Section 1
- Section 4
- Section 3 (Correct Answer)

82 Which of the following files is available only in a half-round shape?

- Rasp cut (Correct Answer)
- Double cut
- Single cut
- Curved cut

83 Name the loss that occurs due to the rotation of the armature core in the magnetic flux produced by the field system.

- Copper stray loss
- Variable loss
- Core loss (Correct Answer)
- Core stray load loss

84 What happens to the armature reaction in case of zero lagging load power factor?

- De-magnetize (Correct Answer)
- Magnetize
- Cross-magnetize
- Null effect

85 Which places implement the type of wiring illustrated in the diagram below?

- Hostel (Correct Answer)
- Corridor
- Staircase
- Tunnel

86 Which of the following is an example of a variable capacitor?

- Air capacitor (Correct Answer)
- Mica capacitor
- Ceramic capacitor
- Electrolytic capacitor

87 Which variety of winding wires are used in submersible pumps?

- Super-enamelled copper wire.
- Single cotton-covered copper wire.
- PVC-covered copper winding wire. (Correct Answer)
- Single silk-copper wire.

88 Which synchronous motor has no brushes?

- Induction Motor
- Stepper Motor (Correct Answer)
- Hysteresis motor
- Reluctance motor

89 What is the formula to determine the terminal voltage of an electric circuit?

- Terminal voltage = EMF – voltage drop **(Correct Answer)**
- Terminal voltage = EMF + voltage drop
- Terminal voltage = EMF × voltage drop
- Terminal voltage = EMF/(voltage drop)

90 Which type of induction motor has a wound rotor with three windings either connected in a star or delta?

- Class A motor
- Class B motor
- Class C motor
- Slip ring induction motor. **(Correct Answer)**

91 Which of the following parts of a hammer is used for riveting and bending works?

- Face
- Peen **(Correct Answer)**
- Cheek
- Wedge

92 Calculate the pitch factor for a winding having 40 stator slots, 4 poles with a coil span of 1 to 8.

- 0.74
- 0.84
- 0.89 **(Correct Answer)**
- 0.6

93 When a synchronous motor is employed as a power factor correction device then it is called as _____.

- Induction motor
- Power factor compensator
- Synchronous generator
- Synchronous condenser **(Correct Answer)**

94 What is the purpose of lamination in the armature core of a DC motor?

- To reduce eddy current loss **(Correct Answer)**
- To reduce Hysteresis loss
- To reduce Flux loss
- To reduce Stray loss

95 A transformer has the number of primary turns/volt equal to 10. If the secondary voltage is 30 volts, calculate the secondary turns.

- 300 **(Correct Answer)**
- 3
- 3000
- 10

96 Which of the following effects of electric current is utilised in fluorescent tubes?

- Special rays effect
- Gas ionisation effect **(Correct Answer)**
- Chemical effect
- Magnetic effect

97 Identify the category of the safety sign, when a white symbol is present on a blue background.

- Prohibition sign
- Mandatory sign **(Correct Answer)**
- Information sign
- Warning sign

98 What is the most suitable way to extinguish a fire on electrical equipment?

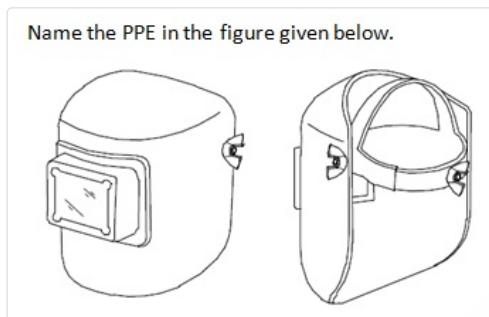
- Use of vapourising liquids (Correct Answer)
- Use of water
- Use of foam
- Use of carbon monoxide

99 What type of force will be induced whenever the flux linking to the conductor or circuit changes?

- Electromotive force (Correct Answer)
- Statice force
- Mechanical force
- Magnetic force

100

Name the PPE in the figure given below.



- Helmet
- Goggles
- Nose mask
- Head shield with ear muff (Correct Answer)

