

# **QUESTION BOOKLET AND ANSWER KEY**

**For Recruitment Test for the post of**

**JE Elect**

**Code-P-6**

**held on 25.3.2012**

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## ENGLISH VERSION

1. ਸਮਾਸੀ ਸ਼ਬਦ ਚੁਣੋ ?  
(A) ਪੜਨਾਨੀ (B) ਮਹਾਂਦੇਵ (C) ਕਲਜੀਭੀ (D) ਥਾਂ-ਟਿਕਾਣਾ
2. ਨਾਂਵ ਕਿੰਨੇ ਪ੍ਰਕਾਰ ਦੇ ਹੁੰਦੇ ਹਨ :  
(A) ਛੇ (B) ਪੰਜ (C) ਚਾਰ (D) ਤਿੰਨ
3. 'ਮੁੱਛ ਦਾ ਵਾਲ ਬਣਨਾ' ਦਾ ਅਰਥ ਹੈ :  
(A) ਦੁਸ਼ਮਣ ਬਣਨਾ (B) ਡਰਾਉਣਾ  
(C) ਬਹੁਤ ਨੇੜੇ ਹੋਣਾ (D) ਰਿਸ਼ਤੇਦਾਰ ਬਣਨਾ
4. ਪੰਜਾਬ ਦੇ ਜੰਮਿਆਂ ਨੂੰ ----- ਮੁਹਿੰਮਾਂ । ਇਸ ਅਖਾਣ ਨੂੰ ਹੇਠ ਲਿਖੇ ਸ਼ਬਦਾਂ ਵਿੱਚੋਂ ਇੱਕ ਸ਼ਬਦ ਚੁਣ ਕੇ ਪੂਰਾ ਕਰੋ :  
(A) ਕਦੇ ਕਦੇ (B) ਹਰ ਸਾਲ (C) ਨਿੱਤ (D) ਵੱਡੇ ਹੁੰਨਿਆਂ
5. 'ਸੁੰਦ੍ਰ' ਨੂੰ ਸ਼ੁੱਧ ਕਰਕੇ ਲਿਖੋ  
(A) ਸੁੰਦਰ (B) ਸੁੰਦ੍ਰ (C) ਸੁੰਨਦਰ (D) ਸੁੰਦਰ

Directions : (Qs 6-8):- Mark the correct preposition, out of the four choices given below, to be filled in the gaps:-

- Q.6. Radheyshyam met..... an accident yesterday.  
(A) with (B) in (C) at (D) upon
- Q.7. You should try to bring him round ..... your views.  
(A) with (B) to (C) about (D) upon
- Q.8. Do you know that this road leads .... Delhi?  
(A) in (B) from (C) to (D) upon.

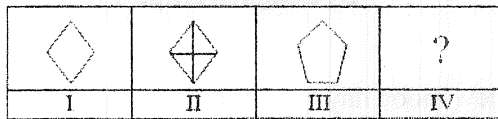
Directions: (Qs 9-10):- Mark the expression, out of the four choices given below, that best conveys the meaning of the following idioms and phrases:-

- Q.9. to carry weight:-  
(A) to carry burden (B) to be burdensome  
(C) to be ineffective (D) to be effective
- Q.10. to bite the dust:-  
(A) to be defeated (B) to die (C) to delay (D) to waste energy.
11. Which of the following is a 'great circle'?  
A) Arctic Circle B) Equator C) Tropic of Cancer D) Tropic of Capricorn
12. The slogan of French Revolution was  
A) One nation, one leader and one flag  
B) Government of the people, by the people, Government for the people  
C) Liberty, equality and fraternity  
D) Workers of the world unite

13. How many nations signed the UN Charter when the organization was established?  
 A) 25                      B) 33                      C) 31                      D) 50
14. Since foundation of Nobel prize, lately which discipline has been added to the original five disciplines which were considered for the award of Noble prize.  
 A) Economics            B) Medicine            C) Peace                D) Literature
15. Oxygen was discovered by  
 A) Ruthford                B) William Ramsay    C) Priestley              D) Neils Bohr
16. Under similar conditions, in which of the following gases will the speed of sound be the least?  
 A) Nitrogen                B) Oxygen              C) Carbon dioxide    D) Sulphur dioxide
17. If the distance between the earth and moon suddenly becomes half the present one, the gravitational force between them  
 A) remains unchanged                      B) becomes half  
 C) becomes one fourth                      D) becomes four times
18. Which two elements are used to absorb neutrons to control the chain reaction during nuclear fission?  
 A) Boron and Cadmium                      B) Boron and Plutonium  
 C) Cadmium and Uranium                    D) Uranium and Boron
19. Match the following  
 1. Glass                      a) Phosphorus  
 2. Cement                    b) Clay  
 3. Matches                    c) Silica  
 4. Ink                         d) Carbon black  
 A) 1b 2c 3d 4a            B) 1c 2b 3a 4d            C) 1b 2a 3d 4c            D) 1c 2d 3a 4b
20. Which of the following have maximum calorific value?  
 A) Carbohydrates        B) Fats                    C) Proteins                D) Vitamins
21. Which is the major mineral found in Punjab?  
 A) Coal                      B) Gold                    C) Salt petre              D) Iron
22. The agency estimating the national income of India is  
 A) RBI                        B) Planning Commission  
 C) Ministry of Finance                      D) Central Statistical Organization
23. Who was the first Prime Minister of India who had to step down as a result of defeat in election?  
 A) Charan Singh        B) Morarji Desai        C) Indira Gandhi        D) Gulzari Lal Nanda
24. Regular census in India are held every 10 years. In which year was the first regular census held in India?  
 A) 1921                      B) 1881                    C) 1911                    D) 1951

25. Which of the following airport is known as 'Suvarna Bhumi Airport'?
- A) Sri Lanka Airport                      B) Bangalore Airport  
C) Mumbai Airport                        D) Bangkok Airport
26. Solar eclipse occurs on:
- A) full moon day                      B) new moon day  
C) last quarter day                      D) first quarter day
27. Who is the author of controversial book 'Gatha Adi Shree Guru Granth Sahib'?
- A) Akhilesh Jaswal    B) Dr. Piar Singh    C) Dr. Rita Jashi    D) Dr. Piara Singh
28. Fish plates are used in railway tracks
- A) to avoid tracks being distorted due to temperature fluctuation  
B) to control speed of the train  
C) to connect two rails  
D) to keep the rails equidistant
29. Clove is obtained from:
- A) flower                      B) root                      C) stem                      D) leaves
30. What is the body temperature of a normal man
- A) 81.1°C                      B) 98.4°                      C) 98.6°C                      D) 36.9°C
31. The First Battle of Panipat was fought between:
- A) Shershah Suri and Akbar                      B) Humayun and Ibrahim Lodhi  
C) Babur and Ibrahim Lodhi                      D) Babur and Rana Sanga
32. "India, that is Bharat, shall be a union of states", occurs in which of the following Articles of Indian Constitution.
- A) 8                      B) 7                      C) 6                      D) 1
33. Akali Dal was formed in:
- A) 1910                      B) 1920                      C) 1930                      D) 1940
34. The pilotless target aircraft, fabricated at Aeronautical Development Establishment, Banglore is:
- A) Lakshya                      B) Cheetah                      C) Nishant                      D) Arjun
35. Which sea is referred to in our National Anthem?
- A) bay of Bengal    B) Indian Ocean    C) Arabian Sea    D) None
36. Gopal starts from his house towards West. After walking a distance of 30 mt., he turned towards right and walked 20 mt. He then turned left and after moving a distance of 10 mt., turned to his left and walked 40 mt. He now turns to his left and walked 5 mt. Finally he turns to his left. In which direction is he walking now?
- A) South                      B) North                      C) East                      D) South-West

37. Figures I and II are related in a particular manner. Replace the question mark on the basis of same relationship between III and IV.



38. The following statement is followed by 3 assumptions. Find which of the assumptions is/are implicit?

**Statement:** "A rare opportunity to be professional while you are at home." – An advertisement for computer literate housewives by a computer company.

**Assumption: I** – "Some housewives simultaneously desire to become professional."

**II** – Computer industry is growing at a fast pace

**III** – It is possible to be a professional as well as a housewife.

- A) Only I & II are implicit      B) Only II & III are implicit  
C) Only I & III are implicit      D) Only II is implicit

39. Find the alternative that can replace question mark below:

3	8	10	2	?	1
6	56	90	2	20	0

- A) 0      B) 5      C) 7      D) 9

40. There are 50 students admitted to a nursery class. Some students can speak only English and some can speak only Hindi. 10 students can speak both English & Hindi. If the number of students who can speak English is 21, then how many students can speak Hindi, only Hindi and only English respectively?

- A) 39, 29 and 11      B) 37, 27 and 13      C) 28, 18 and 22      D) 21, 11 and 29

41. Find the correct inference according to the given premises and symbols:

a: not greater than      b: greater than      c: not equal to  
d: equal to      e: not less than      f: less than

Premises: lcm and lam

- A) lbm      B) ldm      C) lem      D) lfm

42. Saturday was a holiday for Republic Day. 14<sup>th</sup> of the next month was a holiday for Shivratri. What day it was Shivratri?

- A) Monday      B) Tuesday      C) Thursday      D) Friday

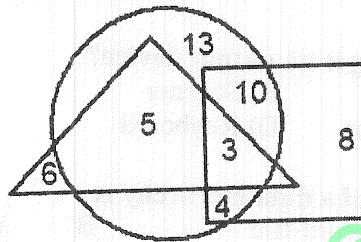
43. In a row of boys, Jeevan is 7<sup>th</sup> from the start and 11<sup>th</sup> from the end. In another row of boys, Vikas is 10<sup>th</sup> from the start and 12<sup>th</sup> from the end. How many students are there in both rows?

- A) 36      B) 38      C) 39      D) cannot be determined

44. A person is asked to put in a basket one apple when ordered 'one', one guava when ordered 'two', one orange when ordered 'three' and is asked to take out from the basket one apple and one guava both when ordered 'four'. The order of sequence executed is: 1,2,3,3,2,1,4,2,3,1,4,2,2,3,3,1,4,1,1,3,2,3,4  
How many guavas will be there in the basket at the end of above order sequence?  
A) 1 B) 2 C) 3 D) 4

45. Study the following arrangement and answer the question below:  
JY2 = S+-EGMX7\$HP9KLβ@WQ13#CD÷  
How many such symbols are there such of which is either immediately followed by a number or immediately preceded by a letter, but not both?  
A) Nil B) 1 C) 2 D) 3

46. In the following diagram, the square represents women, triangle represents corporate managers and circle represents MBAs. Which part represent – Women – MBA – Corporate Managers.



- A) 3 B) 5 C) 8 D) 13
47. There are 5 persons P, Q, R, S and T. One is football player, one is chess player and one is hockey player. P and S are unmarried ladies and do not participate in any game. None of the ladies plays chess or football. There is a married couple in which T is the husband. Q is the brother of R and is neither a chess player nor a hockey player.  
The three ladies are:  
A) P, Q, R B) Q, R, S C) P, Q, S D) P, R, S
48. D is taller than C and E. A is not as tall as E. C is taller than A. D is not as tall as B. Who among them is next to the tallest one?  
A) A B) B C) D D) E
49. If 'PSQ' means 'P is father of Q', 'P#Q' means 'P is mother of Q', 'P\*Q' means 'P is sister of Q' then how is 'D' related to 'N' in N#ASB\*D?  
A) nephew B) data inadequate C) grandson D) grand daughter
50. Find the term which does not fit into the series?  
1CV, 5FU, 9IT, 15LS, 17OR  
A) 5FU B) 15LS C) 9IT D) 17OR
51. You wish to install a hardware device that is not Plug and Play. Which of the following is commonly the first instruction given in help manual to install this device?  
A) Install the driver B) Install the device  
C) Turn the power off D) Disconnect the monitor

- 52) **Mark the odd one**  
 A) Mouse.    B) Keyboard.    C) Joystick.    D) Monitor.
- 53) **A biometric device \_\_\_\_\_.**  
 A) Allows users to connect to a computer only after computer calls back at a previously established telephone number  
 B) Authenticates a person's identity by verifying personal characteristics  
 C) Is a unique combination of characters, such as letters of the alphabet or numbers, that identifies one specific user  
 D) Is any item that must be carried to gain access to a computer or computer facility
- 54) **A UPS :**  
 A) increases the storage capacity of a computer system  
 B) increases the process speed  
 C) provides backup power in the event of a power cut  
 D) increases I/O speed
- 55) **Which of the following is an output device?**  
 A) Bar Code Reader    B) Scanner  
 C) Multimedia Projector    D) Keyboard
- 56) **The ascending order of a data hierarchy is**  
 A) bit-byte-field-record-file    B) bit-byte-record-field-file  
 C) byte-bit-record-field-file    D) byte-bit-field-record-file
- 57) **Find the odd one out**  
 A) MS-Excel    B) Windows XP    C) Linux    D) DOS
- 58) **A word processor would most likely be used to do**  
 A) Keep an account of money spent    B) Do a computer search in media center  
 C) Maintain an inventory    D) Type a biography
- 59) **A printer is used to**  
 A) Store the data    B) Browse the World Wide Web  
 C) Make a video    D) To convert softcopies of data into hardcopies
- 60) **Formatting disk involves**  
 A) Copying contents of one disk to another disk  
 B) Preventing a user from copying the disk  
 C) Erasing the disk contents and giving it an empty root directory  
 D) None of the above
- 61) **Conductance is measured in:**  
 A. Henries    B. Mhos    C. Hertz    D. Watts
- 62) **Converting 7,000 nA into microampere will result in:**  
 A. 0.007  $\mu$ A    B. 0.7  $\mu$ A    C. 700  $\mu$ A    D. 7  $\mu$ A
- 63)  **$3.2 \times 10^{-5}$  A, equivalent to:**  
 A. 32  $\mu$ A    B. 3.3  $\mu$ A    C. 320 Ma    D. 3,200 mA

- 64) Which of the following is not an electrical quantity?  
A. Voltage      B. Current      C. Distance      D. Power
- 65) An electric heater draws 3.5 A from a 110 V source. The resistance of the heating element is approximately equal to:  
A.  $385\Omega$       B.  $38.5\Omega$       C.  $3.1\Omega$       D.  $31\Omega$
- 66) The amount of current flowing through a circuit with a 40 V source and  $6.8\text{ k}\Omega$  of resistance is equal to:  
A. 27.2 mA      B. 59 mA      C. 5.9 mA      D. 590 mA
- 67) The amount of current in a resistor needs to be changed from 120 mA to 160 mA by changing the 24 V source, the new voltage will be:  
A. 8 V      B. 320 V      C. 3.2 V      D. 32 V
- 68) A string of five resistors connected in series is connected across a 6 V battery. Zero voltage is measured across all the resistors except the third resistor. The voltage across the third resistor is:  
A. 0 V      B. 1.2 V      C. 6 V      D. 0.6 V
- 69) Which of the following series combinations of resistors dissipates the most power when connected across a 120 V source?  
A. One,  $220\Omega$  resistor      B. Two,  $220\Omega$  resistors  
C. Three,  $220\Omega$  resistors      D. Four,  $220\Omega$  resistors
- 70) A voltage divider consists of two  $12\text{ k}\Omega$  resistors connected in series. Which of the following load resistors will have the most effect on the output voltage?  
A.  $1\text{ M}\Omega$       B.  $24\text{ k}\Omega$       C.  $18\text{ k}\Omega$       D.  $12\text{ k}\Omega$
- 71) The parallel combination of a  $470\Omega$  resistor and a  $1.5\text{ k}\Omega$  resistor is connected in series with the parallel combination of five  $1\text{ k}\Omega$  resistors. The source voltage is 50 V. The percentage of the load current through any single  $1\text{ k}\Omega$  resistor will be:  
A. 25%      B. 20%      C. 100%      D. 50%
- 72) A Wheatstone bridge comprises the following resistor values:  $R_1 = 10\text{ k}\Omega$ ,  $R_2 = 720\Omega$  and  $R_4 = 2.4\text{ k}\Omega$ . The unknown resistor  $R_3$  is:  
A.  $24\Omega$       B.  $2.4\Omega$       C.  $300\Omega$       D.  $3,000\Omega$
- 73) In a certain five-step R/2R ladder network, the smallest resistor value is  $1\text{ k}\Omega$ . The largest value is:  
A. indeterminate      B.  $2\text{ k}\Omega$       C.  $10\text{ k}\Omega$       D.  $20\text{ k}\Omega$



- 74) Find out the node voltage  $V_A$  in the circuit given in Fig.1.

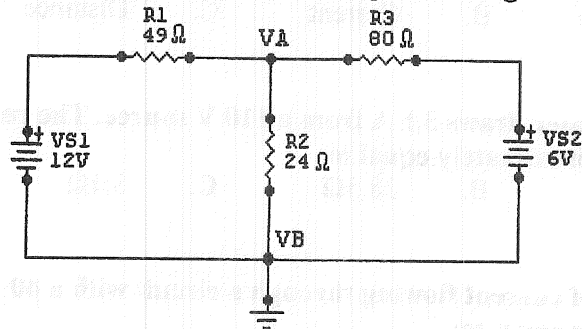


Fig.1.

- A. 6 V      B. 12 V      C. 4.25 V      D. 3 V
- 75) Find out the branch current  $I_{R2}$  in the circuit given in Fig.2.

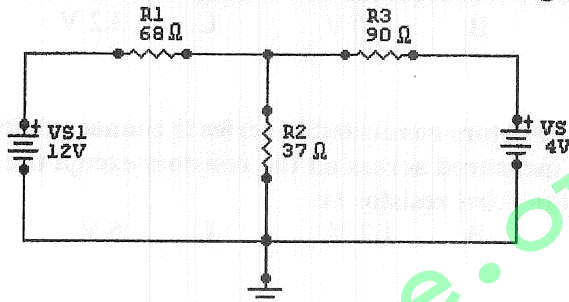


Fig.2.

- A. 5.4 mA      B. -5.4 mA      C. 130.4 mA      D. 119.6 mA
- 76) The power delivered to a three-phase load can be measured by the use of 2 wattmeter only when the
- A. Load is balanced  
 B. 3-phase load is connected to the source through 3 wires  
 C. Load is unbalanced  
 D. 3-phase load is connected to the source through 4 wires
- 77) The value of branch current,  $I_{R1}$ , in the Fig.2 is equal to:
- A. 125 mA      B. 12.5 mA      C. 12.5 A      D. 135 mA
- 78) Computation of branch current uses:
- A. Kirchhoff's voltage and current laws  
 B. Thevenin's theorem and Ohm's law  
 C. Kirchhoff's current law and Ohm's law  
 D. Superposition theorem and Thevenin's theorem
- 79) If the conductive loop on the rotor of a simple two-pole, single-phase generator rotates at the rate of 400 rps. The frequency of the induced output voltage will be:
- A. 40 Hz      B. 100 Hz      C. 400 Hz      D. indeterminable
- 80) One sine-wave has a positive-going zero crossing at  $15^\circ$  and another sine-wave has a positive-going zero crossing at  $55^\circ$ . The phase-angle between the two waveforms is:
- A.  $0^\circ$       B.  $45^\circ$       C.  $40^\circ$       D. none of the above

- 81) A pulse waveform has a high time of 8 ms and a pulse width of 32 ms. The duty-cycle is equal to:  
 A. 25%                      B. 50%                      C. 1%                      D. 100%
- 82) A square wave has a period of 60 s. The first odd harmonic is:  
 A. 5 kHz                      B. 50 kHz                      C. 500 kHz                      D. 33.33 kHz
- 83) The voltage across a coil, when  $di/dt = 20$  mA/s and  $L = 8$  H, is:  
 A. 16 mV                      B. 160 mV                      C. 1.6 mV                      D. 2.5 mV
- 84) A 3-phase star-connected symmetrical load consumes P watts of power from a balanced supply. If the same load is connected in delta to the same supply, the power consumption will be:  
 A. p                      B.  $\sqrt{3}p$                       C. 3p                      D. Not determinable from the given data
- 85) In a series RC circuit, 12 V (rms) is measured across the resistor and 15 V (rms) is measured across the capacitor. The value of rms source voltage is:  
 A. 3 V                      B. 27 V                      C. 19.2 V                      D. 1.9 V
- 86) A  $47\Omega$  resistor and a capacitor with a capacitive reactance value of  $120\Omega$  are connected in series across an ac source. The value of circuit impedance will be:  
 A.  $129\Omega$                       B.  $12.9\Omega$                       C.  $167\Omega$                       D.  $73\Omega$
- 87) A  $2\text{ k}\Omega$  resistor and a  $0.002\text{ F}$  capacitor are connected in series across an ac source. Current flowing in the circuit is  $6.50\text{ mA}$ . The value of true power will be:  
 A.  $84.5\text{ mW}$                       B.  $845\text{ mW}$                       C.  $13\text{ mW}$                       D.  $130\text{ mW}$
- 88) In a series RLC circuit when operating above the resonant frequency, the current:  
 A. lags the applied voltage                      B. leads the applied voltage  
 C. is in phase with the applied voltage                      D. is equal to zero
- 89) A  $3\text{ k}\Omega$  resistor, a  $0.05\text{ F}$  capacitor, and a  $120\text{ mH}$  coil are connected in series across a  $5\text{ kHz}$ ,  $20\text{ V}$  ac source. The value of impedance, expressed in polar form will be:  
 A.  $636\Omega$                       B.  $3,769\Omega$                       C.  $433\Omega$                       D.  $4,337\Omega$
- 90) Determine  $V_{AB}$  when  $R_1$  is  $180\Omega$  and  $X_L$  is  $90\Omega$  in Fig.3.

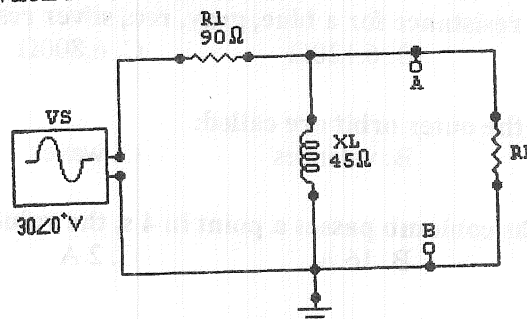


Fig.3.

- A.  $135\angle 63.4^\circ\text{ V}$                       B.  $13.5\angle 63.4^\circ\text{ V}$                       C.  $12.2\angle 0^\circ\text{ V}$                       D.  $122\angle 0^\circ\text{ V}$

- 91) The two basic components of a Thevenin equivalent ac circuit are the equivalent voltage source and the equivalent:
- A. Series impedance                      B. Series resistance  
C. Parallel impedance                      D. Parallel resistance
- 92) In a three-phase system, when the loads are perfectly balanced, the value of neutral current is equal to:
- A. Zero    B. One-third of the maximum value  
C. Two-third of the maximum value      D. The maximum value
- 93) In a certain three-wire Y-connected generator, the phase voltages are 2 kV. The magnitudes of the line voltages will be:
- A. 2,000 V                      B. 6,000 V                      C. 666 V                      D. 3,464 V
- 94) A two-phase generator is connected to two  $90\Omega$  load resistors. Each coil generates 120 V ac. The value of current flowing through the common neutral line will be:
- A. 1.33 A                      B. 1.88 A                      C. 2.66 A                      D. 1.77 A
- 95) Comparing the total copper cross sections in terms of current-carrying capacity for a single-phase and a three-phase 120 V system with effective load resistance of  $15\Omega$ , will yield:
- A. single-phase 32 A; three-phase 16 A  
B. single-phase 16 A; three-phase 8 A  
C. single-phase 8 A; three-phase 4 A  
D. single-phase 16 A; three-phase 0 A
- 96) Polyphase generators produce simultaneous multiple sinusoidal voltages that are separated by certain constant:
- A. Phase-angles                      B. Frequency                      C. Voltage                      D. Current
- 97) In a Y-connected circuit, between each line-voltage and the nearest phase-voltage, there is a phase-angle of:
- A.  $0^\circ$                       B.  $30^\circ$                       C.  $60^\circ$                       D.  $120^\circ$
- 98) The most common type of ac motor is the:
- A. single-phase induction motor                      B. two-phase induction motor  
C. three-phase induction motor                      D. two-phase squirrel-cage motor
- 99) The value of resistance for a blue, gray, red, silver resistor is:
- A.  $612\Omega$                       B.  $6,120\Omega$                       C.  $6,800\Omega$                       D.  $6,460\Omega$
- 100) Electrons in the outer orbit are called:
- A. nuclei                      B. valences                      C. waves                      D. shells
- 101) If eight-tenths coulomb passes a point in 4 s, the value of current is equal to:
- A. 1.6 A                      B. 16 A                      C. 2 A                      D. 0.2 A
- 102) A wiper is the sliding contact in a:
- A. switch                      B. photoconductive cell                      C. thermistor                      D. potentiometer

- 103) A neutral atom with an atomic number of five has electrons equal to:  
 A. 1                      B. 5                      C. none                      D. depends on the type of atom
- 104) Pointer of an analog ohmmeter reading close to zero, indicates the resistor being measured is:  
 A. overheated                      B. shorted                      C. open                      D. reversed
- 105) A certain appliance consumes 350 W. When it is allowed to run continuously for 24 days, it consumes electrical energy equal to:  
 A. 20.16 kWh                      B. 201.6 kWh                      C. 2.01 kWh                      D. 8.4 kWh
- 106) A power supply produces a 0.6 W output with an input of 0.7 W. Its percentage of efficiency is:  
 A. 8.57%                      B. 42.85%                      C. 4.28%                      D. 85.7%
- 107) When an additional resistor is connected across an existing parallel circuit, the total resistance:  
 A. remains the same  
 B. decreases by the value of the added resistor  
 C. increases by the value of the added resistor  
 D. decreases
- 108) Three lamps are connected in parallel across a 120 Volt source. If one lamp burns out, the remaining two will be:  
 A. Glow dimmer                      B. Glow brighter  
 C. Not light                      D. Glow with the same brightness as before
- 109) A certain current source has the values:  $I_S = 4 \mu\text{A}$  and  $R_S = 1.2 \text{ M}\Omega$ . The values for an equivalent voltage source will be:  
 A. 4.8  $\mu\text{V}$ , 1.2  $\text{M}\Omega$                       B. 1 V, 1.2  $\text{M}\Omega$                       C. 4.8 V, 4.8  $\text{M}\Omega$                       D. 4.8 V, 1.2  $\text{M}\Omega$
- 110) The value of current flowing through R3 in the circuit given in Fig.4 is equal to:

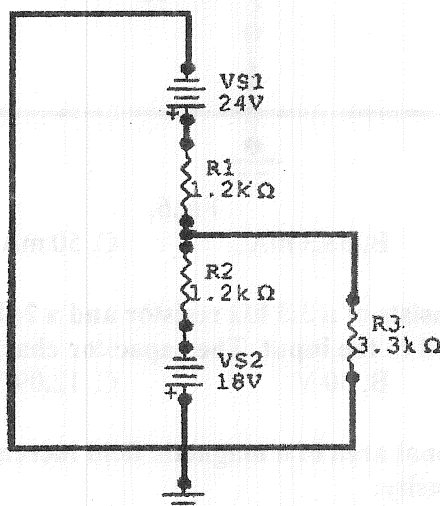


Fig.4.

- A. 7.3 mA                      B. 5.5 mA                      C. 12.8 mA                      D. 1.8 mA

- 111) A 120 V voltage source has a source resistance,  $R_S$ , of  $60\Omega$ . The equivalent current source will be:  
 A. 2 A                      B. 4 A                      C. 200 mA                      D. 400 mA
- 112) Referring to the circuit given in Fig.5, the voltage and current for the load resistor,  $R_L$ , is:

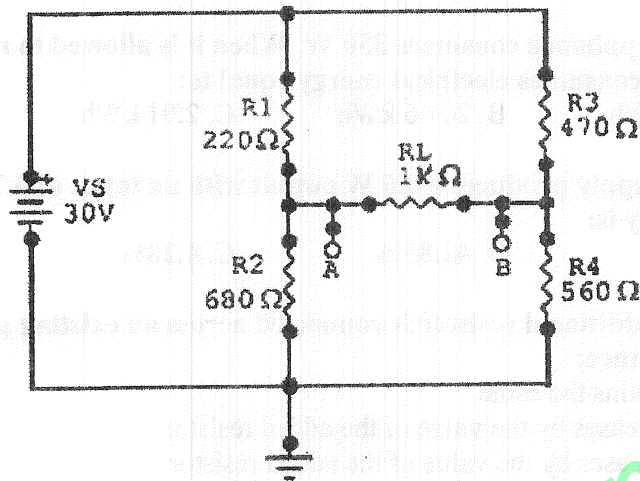


Fig.5.

- A. 450 mV, 4.5 mA                      B. 4.50 V, 45 mA  
 C. 4.50 V, 4.5 mA                      D. 450 mV, 45 mA
- 113) Value of the current flowing in  $R_2$  of the circuit given in Fig.6 will be:

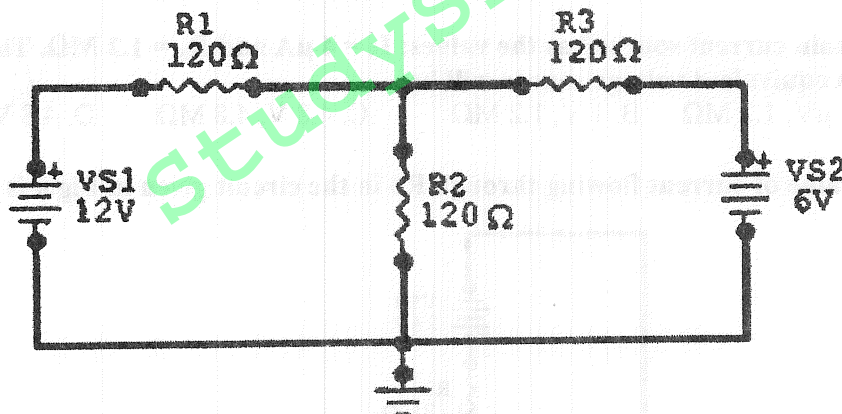


Fig.6.

- A. 16.7 mA                      B. 33.3 mA                      C. 50 mA                      D. 16.6 mA
- 114) An integrator consists of a  $3.3\text{ k}\Omega$  resistor and a  $2\mu\text{F}$  capacitor. A single 30 V, 6 ms pulse is applied to the input. The capacitor charge will be:  
 A. 10.3 V                      B. 30 V                      C. 12.09 V                      D. 17.91 V
- 115) If the cross-sectional area of a magnetic field increases, but the flux remains the same, the flux density:  
 A. increases                      B. decreases                      C. remains the same                      D. doubles

- 116) A coil of wire is placed in a changing magnetic field. If the number of turns in the coil is decreased, the voltage induced across the coil will:
- A. increase                      B. decrease  
C. remain constant              D. be excessive
- 117) When the north poles of two bar magnets are brought close together, there will be:
- A. no force                      B. a downward force  
C. a force of attraction        D. a force of repulsion
- 118) The voltage induced across a certain coil is 200 mV. A 120 $\Omega$  resistor is connected to the coil terminals. The induced current will be:
- A. 1.7 mA                      B. 16 mA                      C. 12 mA                      D. 120 mA
- 119) The induced voltage across a coil with 250 turns that is located in a magnetic field and is changing at a rate of 8 Wb/s is
- A. 1,000 V                      B. 2,000 V                      C. 31.25 V                      D. 3,125 V
- 120) The kVA rating required for a transformer that must handle a maximum load current of 8 A with a secondary voltage of 2 kV will be:
- A. 4 kVA                      B. 0.25 kVA                      C. 16 kVA                      D. 8 kVA

KEY P-6											
Q	A	Q	A	Q	A	Q	A	Q	A	Q	A
1	D	21	C	41	D	61	B	81	A	101	D
2	B	22	D	42	C	62	D	82	B	102	D
3	C	23	C	43	B	63	A	83	B	103	B
4	C	24	B	44	B	64	C	84	C	104	B
5	D	25	D	45	D	65	D	85	C	105	B
6	A	26	A	46	A	66	C	86	A	106	D
7	B	27	B	47	D	67	D	87	A	107	D
8	C	28	B	48	C	68	C	88	A	108	D
9	D	29	C	49	B	69	A	89	D	109	D
10	A	30	D	50	B	70	D	90	B	110	D
11	B	31	C	51	C	71	B	91	A	111	A
12	C	32	D	52	D	72	D	92	A	112	C
13	D	33	B	53	B	73	B	93	D	113	C
14	A	34	A	54	C	74	C	94	D	114	D
15	C	35	D	55	C	75	C	95	B	115	B
16	D	36	B	56	A	76	C	96	A	116	B
17	D	37	D	57	A	77	A	97	B	117	D
18	A	38	C	58	D	78	A	98	C	118	A
19	B	39	B	59	D	79	C	99	B	119	B
20	B	40	A	60	C	80	C	100	B	120	C