



**SHRI VISHWAKARMA SKILL UNIVERSITY**

(A State Skill University, setup by an Act of Legislature in 2016)

## RECRUITMENT EXAMINATION

Advertisement No. HVSU/18/ENT /007 dt. 07/11/2018

### **JUNIOR ENGINEER (ELECTRICAL)**

**A**

Max. Marks : 90 Marks

Time : 90 Minutes

Junior Engineer (Electrical)

1. The condenser of capacity  $32\ \mu\text{F}$  each are connected in parallel with a third condenser of  $64\ \mu\text{F}$  capacity in series, the resultant capacity will be
  - (a)  $32\ \mu\text{F}$
  - (b)  $64\ \mu\text{F}$
  - (c)  $96\ \mu\text{F}$
  - (d)  $48\ \mu\text{F}$
2. Which medium has the least dielectric strength?
  - (a) Air
  - (b) Quartz
  - (c) Glass
  - (d) Paraffin wax
3. Two electric lamps of 50 and 100 watts are given. Which one of the two lamps will be brighter when they are connected in series to the mains
  - (a) 50 W
  - (b) 100 W
  - (c) 50 W and 100 W
  - (d) None of these
4. The strength of a electromagnet can be increased by
  - (a) increasing the length of the conductor.
  - (b) decreasing the length of the conductor.
  - (c) increasing the number of turns.
  - (d) decreasing the number of turns.
5. The electrolyte used in Edison cell is
  - (a) Sulphuric acid.
  - (b) Potassium Hydroxide
  - (c) Nickel Hydrate
  - (d) Nitric Acid
6. One farad is the same as
  - (a) one coulomb/volt.
  - (b) one joule/volt.
  - (c) one joule/coulomb.
  - (d) one coulomb/joule.

7. Which of the following material has a negative temperature co-efficient?
- (a) Aluminium
  - (b) Iron
  - (c) Carbon
  - (d) Nichrome
8. If on a constant resistance we increase the supply voltage to double its value, then the power will
- (a) increase by  $1/3$ .
  - (b) be half.
  - (c) be double.
  - (d) be four times as high.
9. The curve representing Ohm's law is
- (a) a parabola.
  - (b) sine function.
  - (c) linear.
  - (d) a hyperbola.
10. Silicon steel is used in electrical machines because it has
- (a) low hysteresis loss.
  - (b) low retentivity.
  - (c) low coercivity.
  - (d) None of these.
11. An R-C circuit is fed by a D.C source. The current in the circuit is maximum at
- (a)  $t = 0$ .
  - (b)  $t = \infty$ .
  - (c)  $t = RC$ .
  - (d) None of these.
12. The ratio of r.m.s to average value is called
- (a) peak factor.
  - (b) Q-factor.
  - (c) power factor.
  - (d) form factor.
13. Three resistances, each of R ohm, are connected in delta. Their equivalent star value for each resistance is
- (a) R.

- (b)  $3R$ .
  - (c)  $R/3$ .
  - (d)  $2R$ .
14. In series LCR circuit, at resonance
- (a) current is maximum, power factor is zero.
  - (b) current is maximum, power factor is unity.
  - (c) current is minimum, power factor is unity.
  - (d) None of these.
15. Which of the following does not have dual relationship?
- (a) Current - Voltage
  - (b) Inductance - Capacitance
  - (c) Tie-set - Cut-set
  - (d) Resistance - Reactance
16. The good conductor of heat and electricity are
- (a) metals.
  - (b) ceramics.
  - (c) polymers.
  - (d) None of these.
17. Hall's effect can be used to measure
- (a) electric field intensity.
  - (b) magnetic field intensity.
  - (c) carrier concentration.
  - (d) None of these.
18. The conductivity of a pure semi-conductor is
- (a) proportional to temperature.
  - (b) increase exponentially with temperature.
  - (c) decreases exponentially with increasing temperature.
  - (d) All of the above.
19. The function of the commutator in a D.C machine is
- (a) to change alternating current to direct current.
  - (b) to improve commutation.
  - (c) for easy speed control.
  - (d) to change alternating voltage to direct voltage.

20. An external resistance is added in the series with the field of a D.C shunt motor. When the motor runs, the effect of resistance is
- (a) to reduce the speed of the motor.
  - (b) to increase the speed of the motor.
  - (c) to reduce the armature current drawn by the motor.
  - (d) to reduce the losses.
21. A starter is necessary to start a D.C motor because
- (a) it starts the motor.
  - (b) it limits the speed of the motor.
  - (c) it limits the back emf to a safe value.
  - (d) it limits the starting current to a safe value.
22. If the armature current of a D.C motor is increased keeping the field flux constant, then the developed torque,
- (a) increases proportionally.
  - (b) decreases in inverse proportion.
  - (c) remains constant.
  - (d) increases proportional to square of the current.
23. The D.C generator works on the principle of
- (a) Faraday's Laws of electro-magnetic induction.
  - (b) Lenz's law.
  - (c) The current carrying conductor placed in the magnetic field an e.m.f is produced.
  - (d) induction.
24. The load current and flux of a D.C motor are kept constant, if the supply voltage is increased by 20%, its speed will
- (a) remain unchanged.
  - (b) increases by 20%.
  - (c) decreases by 20%.
  - (d) depend upon armature resistance.
25. A 500 V shunt motor has an armature resistance of 0.5 ohm and a field resistance of 100 ohm. The full load rated current is 10 A. If the motor is directly switched on to the mains, the starting current would be
- (a) 5 A.
  - (b) 1000 A.

- (c) 100 A.
  - (d) 10 A.
26. Swinburne test can not be used for
- (a) series motor.
  - (b) shunt motor.
  - (c) compound motor.
  - (d) None of these.
27. A transformer operates
- (a) always at unity power factor.
  - (b) has its own power factor.
  - (c) at a power factor below a particular value.
  - (d) a power factor depending on the power factor of the load.
28. Two transformers are operating in parallel. They will share the load
- (a) depending upon their efficiency.
  - (b) depending upon their ratings.
  - (c) depending upon their leakage reactance.
  - (d) equally.
29. The full load copper loss in a transformer is 400 W. At half load, the copper-loss will be
- (a) 400 W.
  - (b) 200 W.
  - (c) 100 W.
  - (d) 50 W.
30. In power transformers the tapings are provided on
- (a) high voltage side.
  - (b) low voltage side.
  - (c) in the middle of both windings.
  - (d) LV as well as on HV side.
31. Transformer cores are laminated in order to
- (a) simplify its construction.
  - (b) minimise eddy current loss.
  - (c) reduce cost.
  - (d) reduce hysteresis loss.
32. Buchholz relay is placed

- (a) in between the conservator and the breather.
  - (b) in between the tank and conservator.
  - (c) in between the H.V winding and the bushing.
  - (d) in between the L.V winding and the bushing.
33. Which of the following is an instrument transformer?
- (a) Bell-transformer.
  - (b) Adjustable transformer.
  - (c) Ignition transformer.
  - (d) Current transformer.
34. A four-pole turbo-generator supplies a 50 Hz network. What should be the speed of generator?
- (a) 6000 rpm.
  - (b) 3000 rpm.
  - (c) 1500 rpm.
  - (d) 1000 rpm.
35. V-curves of a synchronous motor show the relation between
- (a) armature current and field current.
  - (b) applied voltage and field current.
  - (c) applied voltage and armature current.
  - (d) None of these.
36. High speed alternators usually have
- (a) salient pole rotors.
  - (b) cylindrical rotors.
  - (c) both salient pole and cylindrical rotors..
  - (d) None of these.
37. The relationship between rotor frequency  $f_2$ , slip  $s$ , and stator frequency  $f_1$  is given by
- (a)  $f_2 = f_1/s$
  - (b)  $f_2 = sf_1$
  - (c)  $f_2 = (1-s)f_1$
  - (d) None of these.
38. Under blocked rotor conditions, a 3-phase induction motor is similar to a transformer
- (a) with secondary open circuited.
  - (b) with secondary underloaded.
  - (c) with secondary short circuited.



- (d) None of these.
39. The direction of rotation of a three phase induction motor is reversed by
- (a) interchanging the connection of any two phases.
  - (b) interchanging the connection of all the three phases.
  - (c) rewinding the stator.
  - (d) adding a capacitor in any phase.
40. The speed of a three phase cage-rotor induction motor depends on
- (a) frequency of supply only.
  - (b) number of poles only.
  - (c) number of poles and frequency of the supply.
  - (d) input voltage.
41. In a single phase induction motor
- (a) both the main and auxiliary windings are placed on the stator.
  - (b) both the main and auxiliary windings are placed on the rotor.
  - (c) the main winding is on stator and auxiliary windings on rotor.
  - (d) None of above.
42. The meter used for electric power is called
- (a) kWh meter.
  - (b) Voltmeter.
  - (c) Ammeter.
  - (d) Wattmeter.
43. For increasing the range of voltmeter, connect a
- (a) high value resistance in series with voltmeter.
  - (b) low value resistance in series with voltmeter.
  - (c) high value resistance in parallel with voltmeter.
  - (d) low value resistance in parallel with voltmeter.
44. Creeping is observed in
- (a) Watt-hour meter.
  - (b) Power factor meters.
  - (c) Wattmeter.
  - (d) Ammeter.
45. A wattmeter is reading backwards in an experiment. Upscale reading can be obtained by reversing
- (a) pressure coil connection only.



- (b) current coil connection only. \*
  - (c) both pressure as well as current coil connections.
  - (d) either the pressure coil connection or the current coil connection.
46. First aid for electric shock victim is
- (a) bandage.
  - (b) cover with blanket.
  - (c) pouring water on body.
  - (d) artificial respiration.
47. The capital cost per MW is highest in case of
- (a) Steam power plants.
  - (b) Nuclear power plants.
  - (c) Gas turbine power plants.
  - (d) Diesel engine power plants.
48. Steel rails are welded by
- (a) Resistance welding.
  - (b) Thermit welding.
  - (c) Argon arc welding.
  - (d) Gas welding.
49. TIG welding is
- (a) Temperature Insulated Gas welding.
  - (b) Tungsten Inert Gas welding.
  - (c) Thermally Induced Gas welding.
  - (d) Thorium Iodine Gas welding.
50. The  $di/dt$  rating of an SCR is specified for its
- (a) decaying anode current.
  - (b) decaying gate current.
  - (c) rising gate current.
  - (d) rising anode current.

### General English

Q51. Choose the one which best expresses the meaning of the given word:

**STRINGENT**

- (A) Flexible (B) Inflexible  
(C) Staunch (D) Tough

Q52. Find out which part of the sentence has an error:

Each woman and each man have (a)/equal rights to choose the (b)/ career of their own choice.(c)/No error(d)

- (A) (a) (B) (b)  
(C) (c) (D) (d)

Q53. Pick the right meanings of the following **idiom and phrase**:

**A man of straw**

- (A) A man with no means  
(B) A generous man  
(C) A man of character  
(D) A man of no substance

Q54. Choose the one which is most opposite in meaning to the given word:

**Hirsute**

- (A) Shaggy  
(B) Bald  
(C) Erudite  
(D) Glorious

Q55. Fill in the blank with suitable article:

Please give me \_\_\_\_\_ useful gift.

- (A) an (B) a (C) the (D) no article

Q56. Fill in the blank:

We are witnessing an industry that is \_\_\_\_\_ on poverty, mostly.

- (A) leading  
(B) superior  
(C) thriving  
(D) discord

Q57. **Directions:** In question given below, the first and the last sentences are numbered 1 and 6. Remaining sentences are named P, Q, R and S. These four sentences are not given in their proper order. Read the sentences and find out which of the four combinations is correct:

1: We think therefore, we are.

P: Not just individuals, even nations do better than others because of the collective ability to think beyond.

Q: Thinking defines and distinguishes us from one another.

R: We evolve, because we think.

S: Thinking alone propels us towards knowledge and right knowledge enables right action which results in meaningful creation.

6: History repeatedly reveals that nations with developed thinking ecosystems have always been at the forefront of creating and innovating.

(A) SRQP

(B) RSQP

(C) RQSP

(D) RQPS

Q58. Choose the correct option to complete the sentence given below:

Look ! A hamster \_\_\_\_\_ by a cat.

(A) has been chased

(B) was being chased

(C) is being chased

(D) is chased

Q59. Pick out the most effective word from the given options to fill in the blank to make the sentence meaningfully complete:

The paths of glory lead \_\_\_\_\_ to the grave.

(A) straight

(B) but

(C) in

(D) directly

Q60. **Directions: Read the following passage to answer the given question based on it-**

But I did not want to shoot the elephant. I watched him beating his bunch of grass against his knees, with the *preoccupied grandmotherly air* that elephants have. It seemed to me that it would be murder to shoot him. I had never shot an elephant and never wanted to. (Somehow it always seems worse to kill large animal.) Besides, there was the beast's owner to be considered. But I had got to act quickly. I turned to some experienced-looking Burmans who had been there when we arrived, and asked them how the elephants had been behaving. They all said the same thing; he took no notice of you if you left him alone, but he might charge if you went too close to him.

**The phrase 'Preoccupied grandmotherly air' signifies**

- (A) being totally unconcerned
- (B) pretending to be very busy
- (C) a very superior attitude
- (D) calm, dignified and affectionate disposition

### General Aptitude

Q61. In a class of 90, where girls are twice that of boys, Vijay ranked fourteenth from the top, if there are 10 girls ahead of Vijay, how many boys are after him in rank?

- (A) 23
- (B) 26
- (C) 25
- (D) 22

Q62. **Statement:** A maladjusted is a non-criminal who commits crime for the sake of adjustment.

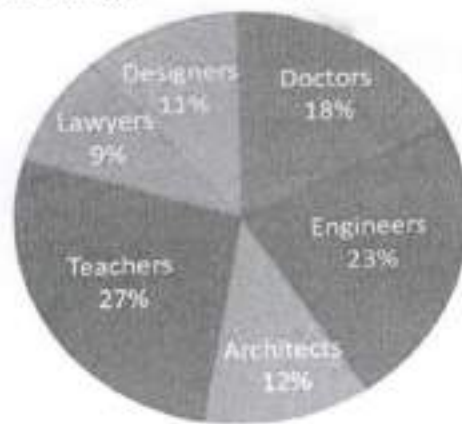
**Conclusion I:** Some crimes have their root cause in adjustment problems.

**Conclusion II:** Maladjustment and delinquency go hand in hand.

- (A) only conclusion I follows
- (B) only conclusion II follows
- (C) Both I and II follow
- (D) Neither I nor II follows

**Directions:** Study the following pie-chart and table carefully and answer the question given below:

A survey was conducted on 14500 people to find out various professionals in a town and the percentage of female professionals amongst them



Percentage of Female professionals

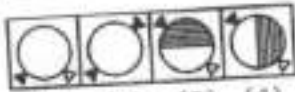
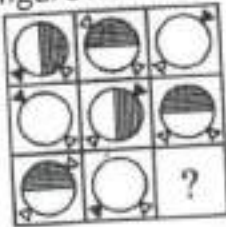
Doctors	16%
Engineers	45%
Architects	38%
Teachers	65%
Lawyers	32%
Designers	53%



- Q63. The total number of Lawyers in the town is approximately what per cent of the total number of Doctors in the town?  
 (A) 55% (B) 50%  
 (C) 47% (D) 45%
- Q64. Complete the series: 8, 17, 34, 58, 88,  
 (A) 130 (B) 123  
 (C) 102 (D) 132
- Q65. In a certain code, FIRE is written as QHOE, and MOVE AS ZMWE. Following the same rule of coding, what should be the code for the word OVER?  
 (A) MWED  
 (B) MWEO  
 (C) MWOE  
 (D) MWZO
- Q66. Two friends Tinu and Dinu are driving car in Paris. Tinu is facing north and Dinu is facing south. They drive their cars for 80 meters in the direction they are facing and reached HDFC Bank and CUB ATM respectively. Then they turn right and drive for another 70 meters and reached PVR cinemas and Phoenix mall respectively. Then they take 90 degree anti clock wise direction for 40 meters and then they turn right. After driving for 30 meters Dinu reaches at CTS and Tinu reached at TCS. Initially, if Dinu was 270 meters to the east of Tinu, then what is the shortest distance and direction of TCS with respect to CTS?  
 (A) 250 meters, north-west  
 (B) 250 meters, north east  
 (C) 240 meters, north  
 (D) 240 meters, north-west
- Q67. Equine : Horse :: Vulpine : ?  
 (A) Dog (B) Cat (C) Wolf (D) Eagle
- Q68. A family of nine members – Bala, Shalu, Honey, Chand, Geet, Gopi, Jassi, Kinjal and Bittu distributed along 3 generations such that: Bala is Bittu's grandmother. Chand is Kinjal's mother. Gopi is Shalu's son in law. Honey is Geet's husband. Jassi is Bittu's sister. Chand has a brother, a niece and a nephew. Only couples have children. How is Shalu's son in law related to Geet's husband?  
 (A) Father  
 (B) Father-in-law  
 (C) Brother-in-law  
 (D) Uncle



Q69. Select a suitable figure from the four alternatives that would complete the figure matrix.



- (A) 1 (B) 2 (C) 3 (D) 4

Q70. Choose the alternative which is closely resembles the mirror image of the given word:

**PAINTED**

(1) DETNIAP

(2) PAINTED

(3) PAINTED

(4) DETNIAP

- (A) 1 (B) 2 (C) 3 (D) 4

Junior Engineer (Electrical) GK part

71. Zero was invented by
- (a) Aryabhatta
  - (b) Varahmihira
  - (c) Bhaskar I
  - (d) Brahmagupta
72. The first Muslim invasion of India was led by
- (a) Mahmud of Ghazni
  - (b) Mohammed Ghori
  - (c) Mohammed-bin-Qasim
  - (d) Timur
73. The idea of Pakistan was firstly suggested by
- (a) Sir Syed Ahmed Khan
  - (b) Muhammad Iqbal
  - (c) MA jinnah
  - (d) Shaukat Ali
74. The tenure of the judges of International Court of Justice is
- (a) 3 years
  - (b) 5 years
  - (c) 6 years
  - (d) 9 years
75. Which is the biggest planet of our Solar system?
- (a) Jupiter
  - (b) Saturn
  - (c) Mars
  - (d) None of these
76. Who was the first Speaker of Lok Sabha?
- (a) P Upendra
  - (b) Hukam Singh
  - (c) GV Mavalankar
  - (d) None of these
77. For regulation of the Insurance Trade in the country the Government has formed
- (a) SEBI

- (b) Reserve Bank of India
  - (c) Insurance Regulatory and Development Authority
  - (d) General Insurance Corporation
78. Which award is given for excellence in sports?
- (a) Jannalal Bajaj Award
  - (b) Arjuna Award
  - (c) Tagore Award
  - (d) Moortidevi Award
79. When is 'World Environment Day', recognised by the UN, observed?
- (a) 11<sup>th</sup> December
  - (b) 20<sup>th</sup> December
  - (c) 15<sup>th</sup> September
  - (d) 5<sup>th</sup> June
80. Which country tops in the FIFA global ranking 2018?
- (a) Belgium
  - (b) Brazil
  - (c) India
  - (d) France

**JUNIOR ENGINEER (ELECTRICAL) - SECTION V**

- Q81.** A term associated with the comparison of processing speeds of different computer system:
- A) EFTS
  - B) MPG
  - C) MIPS
  - D) CPS
- Q82.** EEPROM stands for
- A) Electrically Erasable Programmable Read Only Memory
  - B) Easily Erasable Programmable Read Only Memory
  - C) Electronic Erasable Programmable Read Only Memory
  - D) None of the above
- Q83.** Which of the following is valid statement?
- A) Data in itself is useless unless it is processed
  - B) The data that is processed is called a program
  - C) The data which is not yet processed is information
  - D) Information is processed by computer to generate data.
- Q84.** Which of following is not a type of user interface?
- A) command line
  - B) system interface
  - C) design interface
  - D) both B and C
- Q85.** Cut, copy and paste are features of
- A) clipboard
  - B) desktop
  - C) tray
  - D) taskbar
- Q86.** Internet access by transmitting digital data over the wires of a local telephone network is provided by
- A) leased line
  - B) digital subscriber line
  - C) digital signal line
  - D) none of the mentioned
- Q87.** When sender and receiver of an e-mail are on same system, we need only two
- A) IP
  - B) Domain
  - C) Servers
  - D) User Agents

Q88. File extension of word document is \*

- A) .xls
- B) .doc
- C) .word
- D) .jpeg

Q89. How do you display current date only in MS Excel?

- A) date ()
- B) Today ()
- C) now ()
- D) time ()

Q90. Which of the following will not advance the slides in a slide show view?

- A) Esc key
- B) The spacebar
- C) The Enter key
- D) The mouse button

**SVSU Recruitment Examination 2019**  
**Loaded Key Sheet for : 09 - J.E (Electrical) , Set Code : A**

Q.No.	Key	Q.No.	Key	Q.No.	Key	Q.No.	Key	Q.No.	Key
1 ✓	A	21 ✓	D	41 ✓	A	61 ✓	B	81 ✓	C
2 ✓	A	22 ✓	A	42 ✓	D	62 ✓	C	82 ✓	A
3 ✓	A	23 ✓	A	43 ✓	A	63 ✓	B	83 ✓	A
4 ✓	C	24 ✓	B	44 ✓	A	64 ✓	B	84 ✓	D
5 ✓	B	25 ✓	B	45 ✓	D	65 ✓	B	85 ✓	A
6 ✓	A	26 ✓	A	46 ✓	D	66 ✓	A	86 ✓	B
7 ✓	C	27 ✓	D	47 ✓	B	67 ✓	C	87 ✓	D
8 ✓	D	28 ✓	B	48 ✓	B	68 ✓	C	88 ✓	B
9 ✓	C	29 ✓	C	49 ✓	B	69 ✓	D	89 ✓	B
10 ✓	A	30 ✓	A	50 ✓	D	70 ✓	B	90 ✓	A
11 ✓	A	31 ✓	B	51 ✓	D	71 ✓	A	91	X
12 ✓	D	32 ✓	B	52 ✓	A	72 ✓	C	92	X
13 ✓	C	33 ✓	D	53 ✓	D	73 ✓	B	93	X
14 ✓	B	34 ✓	C	54 ✓	B	74 ✓	D	94	X
15 ✓	D	35 ✓	A	55 ✓	B	75 ✓	A	95	X
16 ✓	A	36 ✓	B	56 ✓	C	76 ✓	C	96	X
17 ✓	A	37 ✓	B	57 ✓	C	77 ✓	C	97	X
18 ✓	B	38 ✓	C	58 ✓	C	78 ✓	B	98	X
19 ✓	D	39 ✓	A	59 ✓	B	79 ✓	D	99	X
20 ✓	B	40 ✓	C	60 ✓	D	80 ✓	A	100	X