BỘ CÔNG THƯƠNG
TRƯỜNG CĐKT CAO THẮNG
KHOA ĐIỆN – ĐIỆN TỬ

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

ĐỀ THI
MÔN: ANH VĂN CHUYÊN NGÀNH
LỚP: CĐTĐ 20A,B
Mã đề thi số: AVCN_02
Ngày thi: …./…./ 2022
Thời gian: 75 phút (Không kể thời gian chép/phát đề thi)
Sinh viên **KHÔNG** được sử dụng tài liệu

PART 1: Choose the correct answer: (5 points).

1 Systems designed to perform without requiring human input are called automatic …. systems
A control
B technology
C engineering
D electrical

2 …. automation is the replacement with computers and machines to that of human thinking
A Automatic
B Technologies
C Electronic
D Industrial

3 IoTs referred to as:
A Internet of Things
B In the Things
C Internet of These
D Internet on Things

4 HMI stands for ...
A Human Mechatronics Interface
B Human Machine Interface
C Human Machine Internet
D Human Mechatronics Internet

5 RFID is a …, which includes wireless data capture and transaction processing
A internet
B electricity
C industrial
D technology

6 … systems are designed to transport any type of products
A Industry
B Conveyor
C Sensor
D Microcontroller

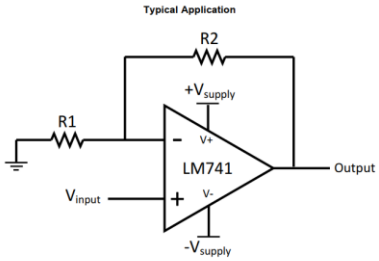
7 In smart warehouse systems, a robot can … with all of the tech it needs to implement the tasks
A internet
B communicate
C electricity
D industrial

8 These … robots are built to work together with other robots, on enormous assembly lines
A sensor
B microcontroller
C assembling
D collaborative

9 Which is the application of INA821?
A Bridge amplifier
B DC and AC Amplifiers
C Transmit radio wave
D Recive radio wave

10 Translate into Vietnamese: high impedance
A Trở kháng cao
B Trở kháng thấp
C Dung kháng cao
D Dung kháng thấp

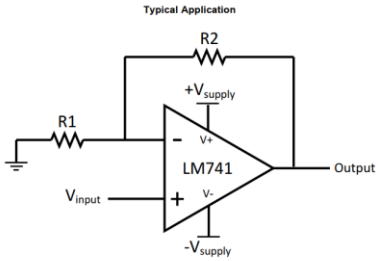
11



Which is the number of pin for V_{input}

A Pin 3
B Pin 6
C Pin 7
D Pin 4

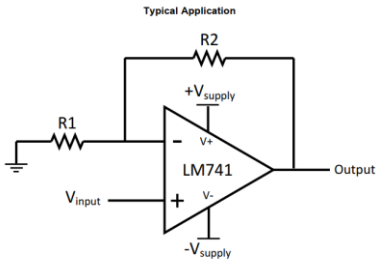
12



Which is the number of pin for Output

A Pin 3
B Pin 6
C Pin 7
D Pin 4

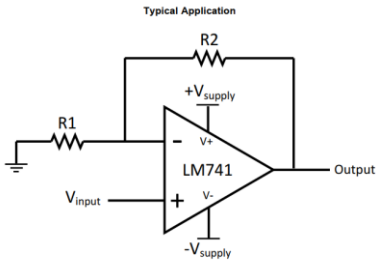
13



Which is the number of pin for V_{input}

A Pin 3
B Pin 6
C Pin 7
D Pin 4

14



Which is the number of pin for $+V_{supply}$

A Pin 3
B Pin 6
C Pin 7
D Pin 4

15 How much the supply voltage use for LM741?

A Vmax = ±18
B Vmax = ±22
C Vmax = ±30
D All answer are wrong

16 Translate into Vietnamese: amplifier

A Bộ cảm biến
B Bộ xử lý tín hiệu
C Bộ khuếch đại
D Bộ chỉnh lưu

17 With using RL28-8-H-700-RT/47/105, which are the number of pins for power supply?

A Pin 1-3
B Pin 2-4
C Pin 3-4
D Pin 3-5

18 What type is output of RL28-8-H-700-RT/47/105?

A PNP
B NPN
C ON/OFF
D All answer are wrong

19 With using RL28-8-H-700-RT/47/105, which are the number of pins for Output?

A Pin 1-3
B Pin 2-4

20 The MBS 3000-2011-A1AB04-0 sensor use to measure …

A temperature
B light

C Pin 3-4
D Pin 3-5

21 The power supply of sensor MBS 3000-2011-A1AB04-0 is …
A 5VDC
B 24VDC
C 220 VAC
D No need

22 The controlled parameter range of sensor MBS 3000-1815-A1AB04-0 is …
A 0 … 1bar
B 0 … 6bar
C 0 … 10bar
D 0 … 16bar

23 The output of sensor MBS 3000-1012-A1AB04-0 is ..
A 0 … 5VDC
B 0 … 10VDC
C 4 … 20mA
D 0 … 20mA

24 Translate into Vietnamese: rectify
A Chu kỳ
B Chỉnh lưu
C Biến tần
D Biến đổi

25 Inverter: Circuit to change the DC to the AC with … frequency
A variable
B rectifys
C adjusts
D pulsation

26 Following the FR-E700 Intrution manual, The Motor connect to ..
A R, S, T
B U, V, W
C A, B, C
D All the answers are wrong

27 Which terminal of TZN4S-14S are connected to the output?
A 1-2
B 5-6
C 9-10
D 11-12

28 Which terminal of TZN4S-14S are connected to the event output?
A 1-2
B 4-5
C 6-7
D 9-10

29 Following the FR-E720 Intrution manual, Pr.13 is the parameter for
A Starting frequency
B Jog frequency
C Jog acceleration/deceleration time
D Base frequency voltage

30 Following the FR-E720 Intrution manual, Pr.73 is the parameter for
A Operation mode selection
B Communication startup mode selection
C Analog input selection
D Analog output signal selection

31 For controlling the Speed of the motor, they use the inverter FR-E720. Set the parameter for choosing the EXT mode using the switch
A Pr.79=2
B Pr.75=2
C Pr.77=2
D Another parameter

32 For controlling the Speed of the motor, they use the inverter FR-E720. Set the parameter for: electrical thermal relay Motor parameters: U=380V, I=1.8A, P=1HP, f=50Hz, n=1450rpm.
A Pr.9=180
B Pr.9 =18
C Pr.9=1.8
D Pr.84=1.8

33 A hot water heater uses a …… to control the temperature of the water

A desired
B controller
C thermostat
D temperature

34 Temperature …. have several other parameters, one of which is a ….

A output, relay
B SSR, on
C relays, on
D controllers, setpoint

35 Which type of the input (sensor) can the TZN4S-14S accept

A RTD
B TC
C RTD and TC
D All the anwers are wrong

36 Which terminal of TZN4S-14S are connected to the output?

A 1-2
B 5-6
C 9-10
D 11-12

37 Following the manual of TZN-TZ temperature controller, TZ4M-24R has the power supply …

A 12VDC
B 24VDC
C 100-240VAC 50/60Hz
D 220VAC 50Hz

38 Following the manual of TZN-TZ temperature controller, TZ4M-24R has …

A W48 x H48mm
B W72 x H72mm
C W96 x H96mm
D W48 x H96mm

39 Following the manual of TZN-TZ temperature controller, TZ4M-24R has the control output …

A Relay output
B SSR drive voltage output
C Current output
D All the anwers are wrong

40 Which terminal of TZ4M-24R are connected to the power supply?

A 1-2
B 4-5
C 7-8
D 9-10

<u>PART 2:</u> Fill the following words appropriately into paragraphs below (3 points)

Rectify	inverter	on and off	voltage	sinewaves
Induction	frequency	DC voltage	speed drive	inverting section

An inverter is a motor control that adjusts the speed of an AC induction motor. It does this by varying the ...(1)… of the AC power to the motor. An inverter also adjusts the …(2)… to the motor.

This process takes place by using some intricate electronic circuitry that controls six separate power devices. They switch …(3)… to produce a simulated three phase AC voltage. This switching process is also called inverting DC bus voltage and current into the AC waveforms that are applied to the motor. This led to the name …(4)… For the rest of this discussion, the term “inverter” will be used in place of adjustable…(5)…

Most inverters are of the variable voltage, variable frequency design. They consist of a converter section, a bus capacitor section and an …(6)… The converter section uses semiconductor devices to

…(7)… the incoming fixed voltage, fixed frequency 3-phase AC power to …(8)…which is stored in the bus capacitor bank. There it becomes a steady source of current for the power devices which are located in what is known as the inverting section.

The inverting section absorbs power from the DC bus cap bank, inverts it back to simulated 3-Phase AC …(9)… of varying voltage and varying frequency that are typically used to vary the speed of a 3-phase …(10)…motor.

PART 3: (2 points)

For controlling the temperature of the oven, they use temperature controller TZN4M – A4S.
Following the manual instruction, you answer the questions below:

1. What is the power supply for TZN4M – A4S (0.2 point)?
2. Which is the dimension of TZN4M – A4S (0.2 point)?
3. How many type of the input (sensor) which the controller TZN4M – A4S can accept (0.2 point)?
4. What type of the control output (0.2 point)?
5. How many auxiliary output does TZN4M – A4S have (0.2 point)?
6. Draw the connection for controlling the oven (1200W-220VAC) with TZN4M – A4S and RTD sensor (1 point).

TP. HCM, Ngày 12 Tháng 07 Năm 2022

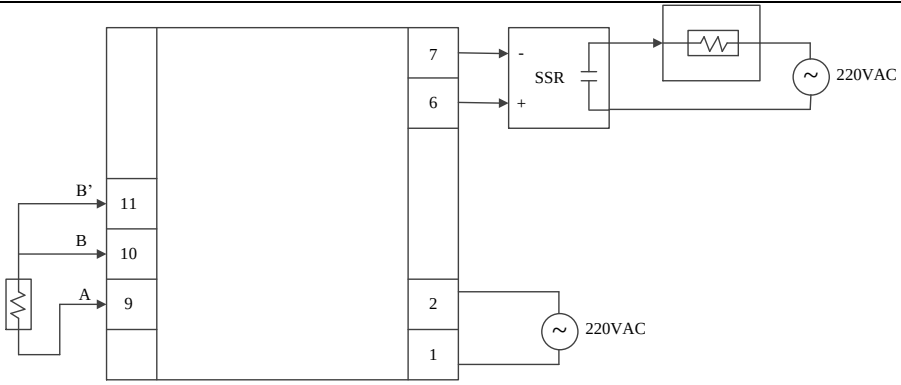
BỘ MÔN TỰ ĐỘNG | **GIÁO VIÊN RA ĐỀ**

TS. Đặng Đắc Chi | **Th.S Nguyễn Thủy Đăng Thanh**

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

ĐÁP ÁN ĐỀ THI
MÔN THI: ANH VĂN CHUYÊN NGÀNH
LỚP: CĐTĐ 20A,B
Mã đề thi số: AVCN_02
Thời gian: 75 phút

	Nội dung	**Điểm**
Câu 1	1. A 11. A 21. B 31. A 2. D 12. B 22. B 32. A 3. A 13. A 23. A 33. C 4. C 14. C 24. B 34. D 5. D 15. B 25. A 35. C 6. B 16. C 26. B 36. A 7. B 17. A 27. A 37. C 8. D 18. A 28. D 38. B 9. A 19. B 29. A 39. D 10. A 20. C 30. C 40. C **Mỗi từ đúng: 0.125điểm**	**5đ**
Câu 2	1. Frequency 2. Voltage 3. On and off 4. Inverter 5. Speed drive 6. Inverting section 7. Rectify 8. DC voltage 9. Sinewaves 10. Induction **Mỗi từ đúng: 0.3 điểm**	**3đ**
Câu 3	1. The power supply for TZN4M – A4S is 100-240VAC 50/60Hz. 2. The dimension of TZN4M – A4S is DIN W72 x H72mm 3. Two type of the input (sensor) which the controller TZN4M – A4S can accept: RTD and TC. 4. Type of the control output is SSR drive. 5. TZN4M – A4S have two auxiliary output. 6. Draw the connection for controlling the oven (1200W-220VAC) with TZN4M – A4S and RTD sensor	**2đ**



TP. HCM, Ngày 12 Tháng 07 Năm 2022

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