ĐỀ THI
MÔN: ANH VĂN CHUYÊN NGÀNH
LỚP: CĐTĐ 20A,B
Mã đề thi số: AVCN_01
Ngày thi: …./…./ 2022
Thời gian: 75 phút (Không kể thời gian chép/phát đề thi)
Sinh viên **KHÔNG** được sử dụng tài liệu
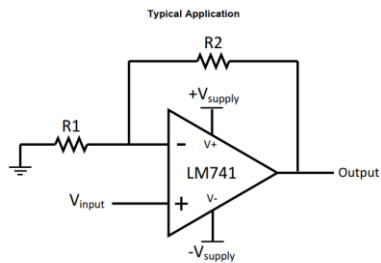
PART 1: Choose the correct answer: (5 points).

1 Automation describes a wide range of …. which reduce human intervention in processes
A automatic
B technologies
C electronic
D industrial

2 Warehousing … that you would see today mainly handle the picking and packing of goods
A PLC
B robots
C network
D internet

3 RFID stands for ...
A Radio-frequency interface
B Radio-frequency internet
C Radio-frequency identification
D Radio-frequency interlock

4 Translate into English: ngành tự động
A Electrical engineering
B Electronic engineering
C Automation
D Automobile

5 PLCs referred to as:
A Proportional Logic Controller
B Programmable Logic Controller
C Programmable Logic Computer
D Proportional Logic Computer

6 Translate into Vietnamese: system
A Phần tử
B Sơ đồ
C Quy trình
D Hệ thống

7 A … contains one or more CPUs along with memory and programmable input/output peripherals
A sensor
B microcontroller
C assembling
D collaborative

8 Smart homes enabled with lighting control allow homeowners to reduce … use and benefit from energy-related cost savings
A cost
B electricity
C network
D internet

9 Which is the application of INA828?
A Thermocouple amplifier
B DC and AC Amplifiers
C Transmit radio wave

10 With using INA828, which is the number of pin for $+V_{supply}$, $-V_{supply}$
A Pin 2, 3
B Pin 3, 2
C Pin 7, 4

D   Recive radio wave

D   Pin 4, 7

11   With using INA828, which is the number of pin for $+V_{in}$, $-V_{in}$

12   With using INA828, which is the number of pin for V_{output}

A   Pin 2, 3
B   Pin 3, 2
C   Pin 7, 4
D   Pin 4, 7

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

13

14
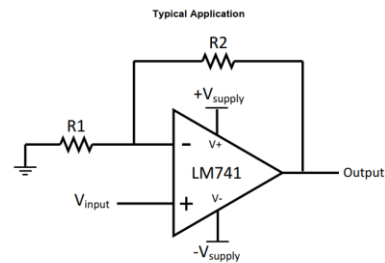
With R_1=4,7k and the $V_{output} = 3V_{input}$
Find the value of R_2

A $V_{output} = (1+R_2/R_1)V_{input}$
B $V_{output} = (1+R_1/R_2)V_{input}$
C $V_{output} = (R_1/R_2)V_{input}$
D $V_{output} = (R_2/R_1)V_{input}$

A R_2=4,7k
B $R_2 = 9,4k$
C   R2 = 14,1k
D   All answer are wrong

15   How much the supply voltage use for INA828?

16   Translate into Vietnamese: magnetic sensor

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

A   Cảm biến tiệm cận
B   Cảm biến đo nhiệt độ
C   Cảm biến áp suất
D   Cảm biến từ

17   How much the supply voltage use for RL28-8-H-700-RT/47/105

18   The detection range of RL28-8-H-700-RT/47/105 is …

A   10 … 30VDC
B   12 … 24VDC
C   12 … 35VDC
D   All answer are wrong

A   20 … 700mm
B   20 …200mm
C   1,5 … 3mm
D   1,5 .. 2mm

19   How many wires does RL28-8-H-700-RT/47/105 have?

20   The sensor RL28-8-H-700-RT/47/105 can dectect

A   2 wire
B   3 wire
C   4 wire
D   5 wire

A   Plastic
B   Wood
C   Paper
D   All the answers are correct

21   The power supply of sensor MBS of MBS 3000-1815-A1AB04-0 is …

22   The controlled parameter range of sensor MBS 3000-2211-A1AB04-0 is …

A   5VDC

A   0 … 1bar

B	24VDC	B	0 … 6bar	
C	220 VAC	C	0 … 10bar	
D	No need	D	0 … 16bar	

23	The output of sensor MBS 3000-2011-A1AB04-0 is ..	24	Translate into Vietnamese: inverter
A	0 … 5VDC	A	Biến đổi
B	0 … 10VDC	B	Biến số
C	4 … 20mA	C	Biến tần
D	0 … 20mA	D	Chu kỳ

25	Smoothing circuit: Circuit to smooth the … included in the DC	26	Following the FR-E700 Intrution manual, the power supply for FR-E720 is …
A	variable	A	24VDC
B	rectifys	B	Single phase AC power supply
C	adjusts	C	Three phase AC power supply
D	pulsation	D	Single phase or three phase power supply

27	Which terminal of TZN4L-24R are connected to the sensor?	28	Which terminal of TZN4L-24R are connected to the output?
A	1-2-3	A	1-2
B	3-4-5	B	5-6
C	6-7-8	C	9-10
D	9-10-11	D	13-14

29	Following the FR-E700 Intrution manual, Pr.79 is the parameter for	30	Following the FR-E700 Intrution manual, Pr.15 is the parameter for
A	Operation mode selection	A	Starting frequency
B	Communication startup mode selection	B	Jog frequency
C	Analog input selection	C	Jog acceleration/deceleration time
D	Analog output signal selection	D	Base frequency voltage

31	For controlling the Speed of the motor, they use the inverter FR-E720. Set the parameter for choosing the PU mode using the operation panel	32	For controlling the Speed of the motor, they use the inverter FR-E720. Set the parameter for: rated motor voltage Motor parameters: U=380V, I=1.8A, P=1HP, f=50Hz, n=1450rpm.
A	Pr.79=1	A	Pr.80=4400
B	Pr.75=1	B	Pr.83=3800
C	Pr.77=1	C	Pr.83=38000
D	Another parameter	D	Pr.83=380

33	For controlling the Speed of the motor, they use the inverter FR-E720. Set the parameter for: motor capacity	34	For controlling the Speed of the motor, they use the inverter FR-E720. Set the parameter for: maximum frequency

Motor parameters: U=380V, I=1.8A, P=1HP, f=50Hz, n=1450rpm.

A   Pr.80=0,75
B   Pr.80=7,5
C   Pr.80=75
D   Pr.80=750

Motor parameters: U=380V, I=1.8A, P=1HP, f=50Hz, n=1450rpm.

A   Pr.1=5000
B   Pr.1=6000
C   Pr.1=6000
D   Pr.1=5000

35   A temperature controller is a device used to hold a ….. temperature at a specified value.
A   desired
B   controller
C   thermostat
D   temperature

36   ….driver outputs are logic outputs that turn a solid state relay …or off
A   output, relay
B   SSR, on
C   relays, on
D   controllers, setpoint

37   Following the manual of TZN-TZ temperature controller, TZN4S-14S 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, TZN4S-14S 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, TZN4S-14S 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 TZN4S-14S are connected to the power supply?

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

PART 2: 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).

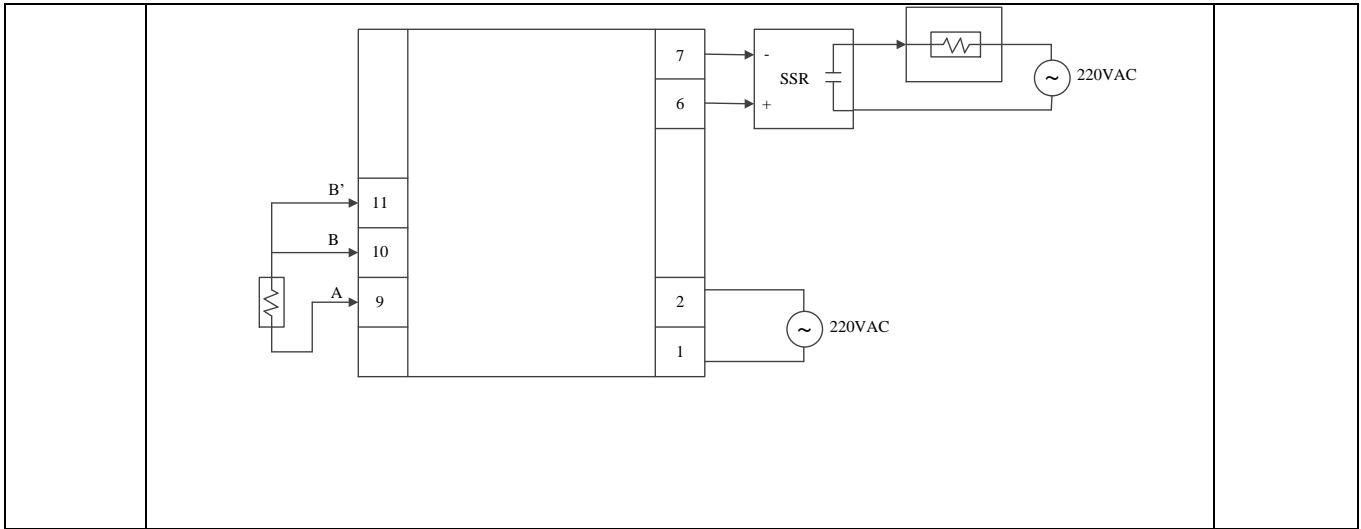*TP. HCM, Ngày 12 Tháng 07 Năm 2022*

BỘ MÔN TỰ ĐỘNG

GIÁO VIÊN RA ĐỀ

TS. Đặng Đắc Chi

Th.S Nguyễn Thủy Đăng Thanh

ĐÁP ÁN ĐỀ THI
MÔN THI: ANH VĂN CHUYÊN NGÀNH
LỚP: CĐTĐ 20A,B
Mã đề thi số: AVCN_01
Thời gian: 75 phút

	Nội dung	Điểm
Câu 1	1. B 11. B 21. B 31. A 2. B 12. B 22. D 32. B 3. C 13. A 23. C 33. C 4. C 14. B 24. C 34. A 5. B 15. A 25. D 35. A 6. D 16. D 26. D 36. B 7. B 17. A 27. A 37. C 8. B 18. A 28. D 38. A 9. A 19. B 29. A 39. B 10. C 20. D 30. B 40. B **Mỗi từ đúng: 0.125 điểm**	**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**