higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NASIENRIGLYN

NASIONALE SERTIFIKAAT

RADIOTEORIE N1

(11041841)

5 APRIL 2018

Hierdie nasienriglyn bestaan uit 6 bladsye.

Kopiereg voorbehou

VRAAG 1

1.1 Onwaar
1.2 Waar
1.3 Onwaar
1.4 Onwaar
1.5 Waar
1.6 Onwaar
1.7 Onwaar
1.8 Waar
1.9 Waar
1.10 Waar (10 × 1) **[10]**

VRAAG 2

2.1

$$A = \frac{\pi.D^2}{4}$$

$$A = \frac{\pi.0,2^2}{4} \checkmark = 0.000000031m^2\checkmark$$

$$R = \frac{\rho.\ell}{A} \checkmark$$

$$R = \frac{0,0017x10^{-6}x1}{0,000000031} \checkmark = 0,054\Omega\checkmark$$

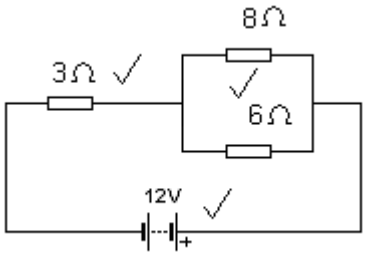
(5)

2.2 Elektrone wat van 'n atoom weggebreek het. (2)

2.3 Die stroom vloei in 'n aansluitingpunt ✓ van 'n stroombaan is gelyk ✓ aan die stroom wat die aansluiting verlaat.✓ (3)
[10]

VRAAG 3

3.1



(3)

3.2 $\frac{1}{Rp} = \frac{1}{R_1} + \frac{1}{R_2}$

$\frac{1}{Rp} = \frac{1}{8} + \frac{1}{6}$ = 0,292✓

R_p = 3,429Ω✓

R_T = 3 + 3,429 = 6,429Ω✓ (3)

3.3 $I = \frac{V}{R}$

$I = \frac{12}{6,429}$ = 1,867 amps✓✓

(2)

3.4 V = I × R = 3 x 1,867✓ = 5,6 volts✓ (2)
[10]

VRAAG 4

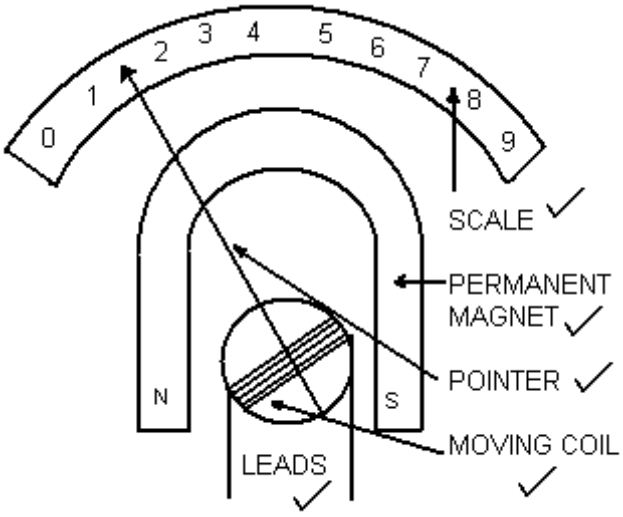
4.1 Wanneer stroom in 'n spoel vloei ✓ word 'n magnetiese veld gevorm.✓ As hierdie magnetiese veld 'n ander spoel sny ✓ 'n EMF word in die spoel geïnduseer.✓ (4)

4.2
- Die rigting van die lyne van vloed is 'n noord-soekende paal.
- Elke lyn vorm 'n geslote pad.
- Hulle sny nooit mekaar nie.
- Hulle probeer altyd hulself verkort.
- Lyne wat in dieselfde rigting is, sal mekaar afstoot. (Enige 4 × 1) (4)

4.3 Noordpool✓ en Suidpool.✓ (2)
[10]

VRAAG 5

5.1



(5)

5.2 $$Rp = \frac{Im\,xRm}{It - Im}$$

$$Rp = \frac{10x10^{-3}\,x100}{100x10^{-3} - 10x10^{-3}}$$ ✓

R_p = 11,11Ω✓ (2)

5.3
- Sluit altyd ampere meter in serie aan
- Let op die korrekte polariteit
- Begin van die hoogste reeks (3)

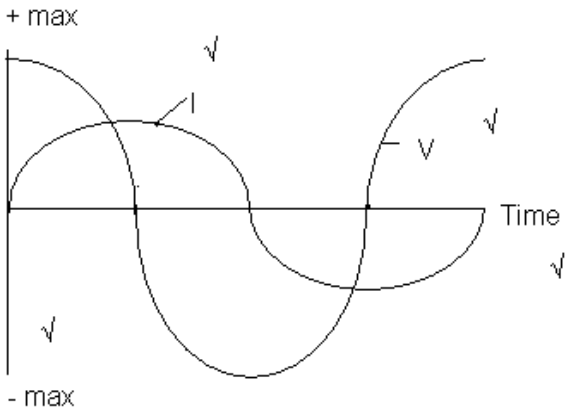
[10]

VRAAG 6

6.1 $$F = \frac{1}{t} = \frac{1}{10 \times 10^{-3}}$$ ✓

= 100Hz✓ (2)

6.2



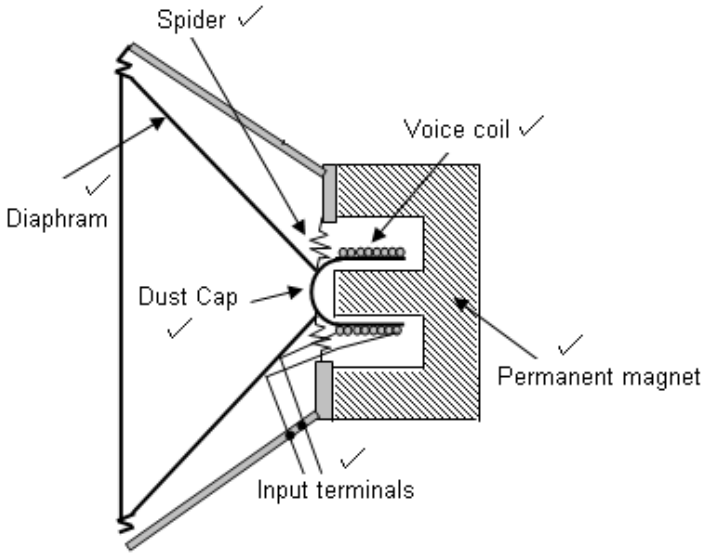
(4)

6.3 Spoel,✓ magneet✓en skuifringe✓ (3)

6.4 Hertz (1)
[10]

VRAAG 7

7.1



(6)

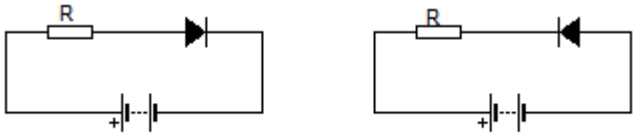
7.2 300 ×10^6✓ meters/sekond✓ (2)

7.3 Die amplitude van die draer wissel ooreenkomstig die AF sein. (2)
[10]

VRAAG 8

8.1 Die basis ✓ beheer die emittor-versamelstroom.✓
Die versamelaar ✓ versamel die ladingdraers.✓
Die emitter ✓ gee die lading draers uit.✓ (3 × 2) (6)

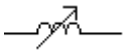
8.2

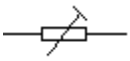


(2 × 2) (4)
[10]

VRAAG 9

9.1 9.1.1 

9.1.2 

9.1.3 

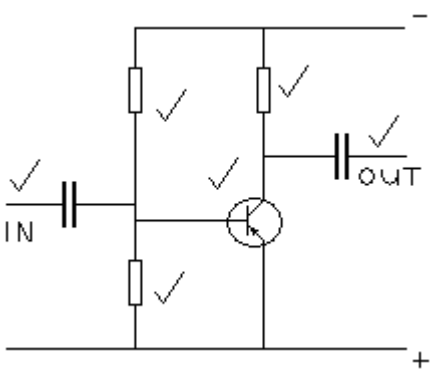
(3 × 1) (3)

9.2 2✓ 7✓ 3✓ 5% ✓ (4)

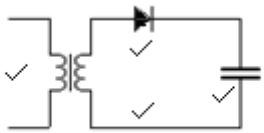
9.3
- Area van die plate
- Afstand tussen die plate
- Dielektriese tussen die plate

(3)
[10]

VRAAG 10

10.1 

(6)

10.2 

(4)
[10]

TOTAAL: 100

Kopiereg voorbehou