

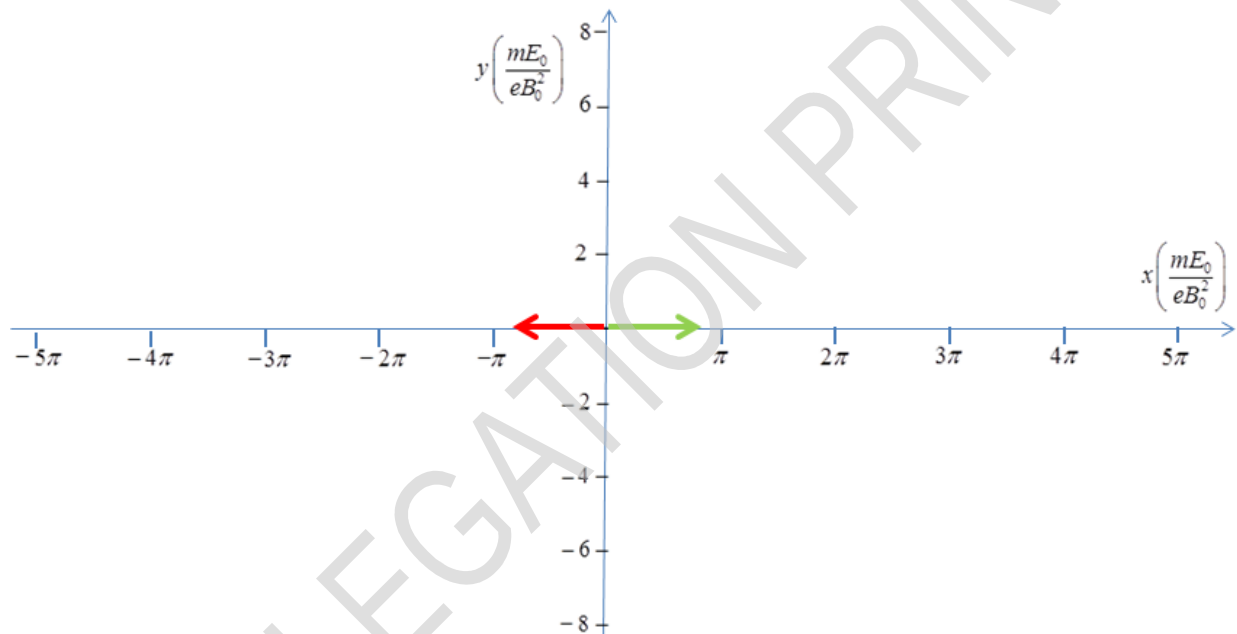
## Mikrobølgeovn - Svarark

### Del A: Struktur og virkemåde af en magnetron (6.6 point)

**A.1** (0.4 pt)

$$f_{\text{est}} =$$

**A.2** (1.5 pt)



1. For  $\vec{u}(0) = (3E_0/B_0)\hat{x}$  er  $\vec{u}_D =$

2. For  $\vec{u}(0) = -(3E_0/B_0)\hat{x}$  er  $\vec{u}_D =$

**A.3** (0.4 pt)

$$r =$$

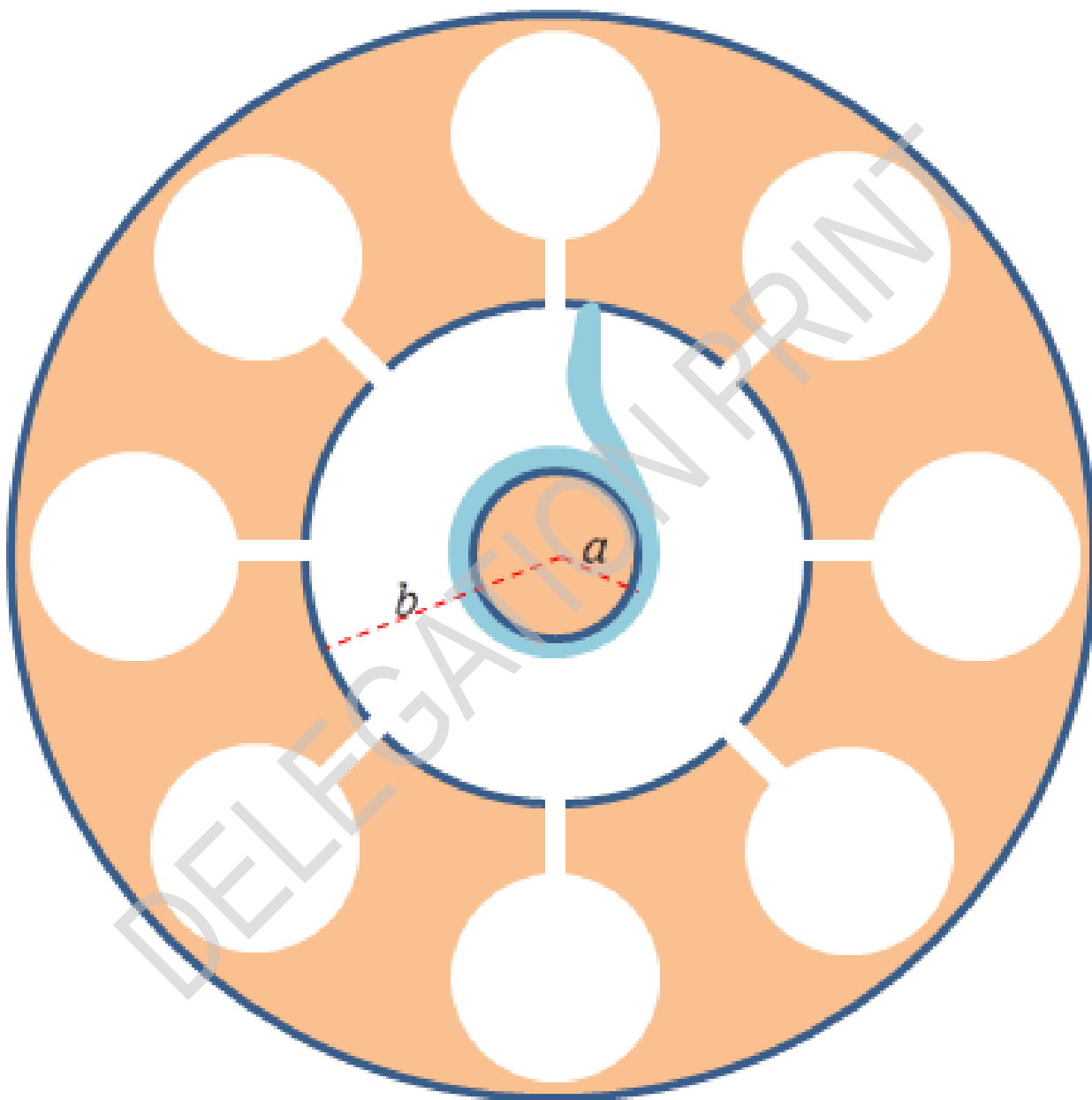
**A.4** (1.2 pt)

| punkt | mod anoden | mod katoden | vinkelret på radius |
|-------|------------|-------------|---------------------|
| A     |            |             |                     |
| B     |            |             |                     |
| C     |            |             |                     |
| D     |            |             |                     |
| E     |            |             |                     |

**A.5** (1.2 pt)

| punkter | vinkel aftager | vinkel øges | ubestemt |
|---------|----------------|-------------|----------|
| AB      |                |             |          |
| BC      |                |             |          |
| CA      |                |             |          |
| DE      |                |             |          |
| EF      |                |             |          |
| DF      |                |             |          |

**A.6** (0.8 pt)



$\omega_s =$

**A.7** (1.1 pt)

$V_0 =$

**Del B: Vekselvirkningen mellem mikrobølgestrålingen og vandmolekyler (3.4 point)**

**B.1** (0.5 pt)

$$\tau(t) =$$

$$H_i(t) =$$

**B.2** (0.5 pt)

$$\langle H(t) \rangle =$$

**B.3** (1.1 pt)

$$I(z) =$$

**B.4** (0.6 pt)

$$\beta =$$

**B.5** (0.7 pt)

$$z_{1/2} =$$

| materiale | $z_{1/2}$ øges med temp. | $z_{1/2}$ aftager med temp. | $z_{1/2}$ forbliver den samme |
|-----------|--------------------------|-----------------------------|-------------------------------|
| vand      |                          |                             |                               |
| suppe     |                          |                             |                               |