

7 AG.

H.O.P. Exam 7/4/27

Theory

(Confidential)

- 1 Define (a) Kelvin
(b) Electro-static induction
(c) Henry
(d) Impedance

2 How would you adjust a low power transmitter to obtain maximum efficiency in connection with the following

- (a) Accuracy of frequency (b) Power radiated from Antenna
(c) Power input to anode ckt.

3 State advantages + disadvantages of following Xmitter ccts
(1) Hartley (2) Meisner (3) Colpitts.

Which circuit do you prefer & why?

4 Explain the theory of the super-het ckt. & give reasons for its design

5 Discuss merits + demerits of fol. systems of Xmission.

- (a) 3rd Harmonic (b) Fundamental.

6 State what you know about Piezo-electric effect.

7 In establishing a low power radio phone installation Heising system how would you decide the following.

- (a) relation between Modulation + Oscillator power.
(b) System of plate supply (c) System of filament supply.

Give diagrams where necessary.

7AG H.R. Exam 7/4/77 (Confidential)

- 1/ Define the classes of stations that experimenters are permitted to communicate with.
- 2/ Give an example of a message of not more than 20 words. Show the preamble, text & signature & include the correct positions of the necessary break signs
- 3/ If it is necessary to communicate w/ a stn whose call you do not know, what sigs would you make.
- 4/ State fully the classes of traffic that experimental stations are permitted to handle
- 5/ Indicate the meaning of the following characters
— · · · — , — — — — — , — · · · — , — · · · — ,
— · · · — , — · · · — , — · · · — , — · · · — ,
- 6/ What is the correct form of acknowledging the receipt of a message
- 7/ What action do you consider necessary for a licensed experimenter to take in order to co-operate with the Department on the inspection of his station?