



इरिसेट

IRISSET

ब्लॉक सिगनलिंग प्रयोगशाला

BLOCK SIGNALLING LABORATORY

प्रयोग सं. बी एस एल - 09

EXPERIMENT NO.: BSL - 09

नाम

Name : _____

अनुक्रमांक

Roll No : _____

पाठ्यक्रम

Course : _____

दिनांक

Date : _____

प्राप्तांक

Marks Awarded : _____

अनुदेशक के आद्यक्षर

Instructor's Initial : _____

Study of FM Block instrument for obtaining line clear and normalisation of Block section

I. Take Line clear & take OFF LSS. Remove SM's keys at both ends and dispatch the train into Block section

a) Whether LSS goes to 'ON' position automatically at Stn.A

Yes/No

b) Whether TOL indication appears automatically?

At Stn.A

Yes/No

At Stn.B

Yes/No

c) Whether it is possible to take OFF LSS at Stn.A once again?

Yes/No

d) Whether TOL buzzer sounds at Stn.A and Stn.B?

Yes/No

e) Does it sound continuously or intermittently?

Continuous / Intermittent

f) Whether it is possible for either station to contact on Telephone while the TOL code

is being transmitted? (Feed to TELR is cut OFF as TOLR is picked up)

Yes/No

g) Press PB1 at Stn.B to acknowledge TOL code. Indicate whether the

Acknowledgement is effective.

Yes/No

h) Insert SM's key at Stn.B and turn to ON position, Press PB1 at Stn.B and

Observe whether the TOL buzzer stops sounding at both stations

Yes/No

i) Observe at both the stations whether the TOL indication appears continuously

Yes/No

Inference:

- 1) TOL code is transmitted & received irrespective of the position of the _____ key. **(SM/Shunt)**
- 2) The TOL buzzer stops sounding only when the train receiving station presses the _____ button as an acknowledgement, provided _____ key is inserted and turned to ON Position. **(SM/Shunt)**
- 3) The TOL indication _____ even after acknowledgement as a permanent reminder to the operator that the Block section is occupied.
- 4) It is not possible to contact on Telephone while the TOL code is being transmitted. **True/False**

II. Keeping the SM's key still outside at Stn.A , receive the train at Stn.B by taking OFF reception signals and observe the following.

- a) Indicate the relay that energized at Stn.B due to arrival of train **2R / 3R**
- b) Observe whether train arrival buzzer sounds at Stn.B? **Yes/No**
- c) Normalize Home signal knob and indicate whether the train arrival buzzer stops **Yes/No**
- d) Try to Normalize the Instrument. **Possible / not possible**
- e) Insert SM's key at Stn.A and turn to ON position. Now try to normalize the instrument. **Possible / not possible**

Inference:

Instruments at both ends can be normalized provided SM's keys are inserted and turned to _____ and all signal knobs concerned are put back to _____ **(Normal/Reverse/ ON/OFF)**

III. Normal Cancellation

Take line clear at Stn.A. Now take OFF LSS but do not dispatch the train. Turn the switch S1 to reverse position to initiate cancellation and observe the following

- a) Whether LSS, goes back to ON position automatically? **Yes/No**
- b) Whether free indication appears? **Yes/No**
- c) Is it possible to take OFF LSS again? **Yes/No**
- d) Whether the relay TEPR is energized? **Yes/No**
- e) Whether the relay 3R is energized? **Yes/No**
- f) Whether it is possible to normalize the Block Handle at both stations? **Yes/No**

Note the S1 counter reading:

Put back LSS knob to normal and note S1 counter immediately, it goes to next higher number 1st half way and 2nd half way after 120 seconds. Now observe the following.

g) Whether the Free indication appears? **Yes/No**

h) Whether the relay 3R is energized **Yes/No**

Do not normalize the switch S1

i) Press PB1 and observe whether bell code can be transmitted to Stn.B **Yes/No**

j) Press PB1 & PB2 and observe whether the Instrument at Stn.B can be normalized. **Yes/No**

k) Press PB1 & PB2 at Stn.B and try to normalize the Instrument at Stn.A **Possible/Not possible**

Now normalize Switch S1 at Stn. A

Press PB1 & PB2 at Stn.B and try to normalize the Instrument at Stn.A **Possible / Not possible**

Inference:

- 1) It is not possible to cancel the line clear before _____ time delay. **(120sec/90 sec)**
- 2) It is not possible to cancel the line clear before _____ indication appears. **(Free/TOL)**
- 3) TER starts functioning only when _____ relay is in energized condition. **(1R/2R)**
- 4) S1 switch in reverse condition does not stop the outgoing DC code and _____ signal,
but required to be normalized for normalizing the _____ **(Block handle, FM signal)**

IV. Push Back Cancellation

Take Line clear at Stn.A and dispatch a train into the Block section and after the Acknowledgement of TOL code by Stn.B, allow the train to push back to Stn.A without taking OFF the home signal and observe the following

a) Observe whether the relay 2R is energized **Yes/No**

b) Whether Train Arrival buzzer sounds? **Yes/No**

c) Reverse the switch S2 and observe whether the Counter registers next higher number **Yes/No**

NOTE: This counter does not require 1R in pick up condition, since this does not require time delay

d) Take OFF the Home signal and allow the train to be pushed back to Stn.A and observe whether the

2R is energized

Yes/No

e) Put back the Home signal lever to Normal and observe whether Train Arrival Buzzer stops sounding

Yes/No

Do not normalize the switch S2

f) Press PB1 & PB2 at Stn.A and observe whether the Instrument at Stn.B can be normalized. **Yes/No**

g) Press PB1 & PB2 at Stn.B and try to normalize the Instrument at Stn.A **Possible / Not possible**

NOTE: It is possible only at Stn.B and not possible at Stn.A

Now normalize the switch S2

h) Press PB1 & PB2 at Stn.B and try to normalize the Instrument at Stn.A **Possible / not possible**

Inference:

1) The 2R will be energized only when the pushing back Train is _____ on reception signals

Keeping _____ in reverse position. **(S1/S2, Received/Dispatched)**

2) It is possible to generate TCF code at the dispatching station by the energization of _____

during Normal Cancellation and the energization of _____ during Push Back Cancellation for

normalization of Block Instrument at the receiving station. **(1R/2R/3R)**

Signature of Trainee