नाम
Name : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

अनुक्रमांक
Roll No : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

प्राप्तांक
Marks Awarded :

पाठ्यक्रम
Course : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

दिनांक
Date : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

अनुदेशक के आद्यक्षर
Instructor's Initial :

Study of Non co-operative feature, Shunting operations, Normal operation, and Line clear cancellation in Push Button type Tokenless Block Instrument. Podanur Make. IRS Specification: S.32/66

I. With SM Key in 'N' position at both Stations 'A' & 'B', Press Bell code and Train Going to button at Station 'A' to set the instrument to TCF at Station 'B' & TGT at Station 'A'.

a) Now try to extract the Shunt Key by pressing SHK button & observe whether it is possible to extract the same.

At Station 'A' end in TGT position **Possible/Not possible**
At Station 'B' end in TCF position **Possible/Not possible**
Insert the Shunt Key wherever it is extracted.

b) Take 'OFF' LSS signal at Station 'A' & send train into Block section. Let Station 'B' end acknowledge TOL buzzer by pressing BCB button. Now try to extract the Shunt Key by pressing SHK button at Stations 'A'& 'B' and observe whether it is possible to extract the same.

At Station 'A' end in TGT position **Possible/Not possible**
At Station 'B' end in TCF position **Possible/Not possible**
Insert the Shunt Key wherever it is extracted.

c) Receive train at Station 'B' end by taking 'OFF' the Home signal & normalize the block instrument by pressing BCB & LCB button. Keeping SM Key in 'N' position, now try to extract the Shunt Key by pressing SHK button, at both Stations 'A' & 'B' and observe whether it is possible.

At Station 'A' end in Line Closed position **Possible/Not possible**
At Station 'B' end in Line Closed position **Possible/Not possible**
Insert the Shunt Key wherever it is extracted.

Inference: Shunting Key extraction is not possible from the instrument which is in _____ position. **(TCF, TGT)**

II. a) Remove the SM Key at Station 'B'. Observe whether it is possible to set the instrument at Station 'B' to TGT **Possible/Not possible**
Set the station 'B' instrument back to Line Closed

b) Remove the Shunt Key at Station 'A' and observe whether it is possible to set the instrument at Station 'B' to TGT. **Possible/Not possible**

c) Insert the Shunt Key at Station 'A' & observe whether it is possible to set the instrument at Station 'B' to TGT. **Possible/Not possible**
Set the Station 'B' instrument back to Line Closed.

d) Keep the SM Key in 'N' position & extract Shunting key at Station 'A', Now try to set instrument at Station 'A' to TGT **Possible/Not possible**

Inference:
1) S M Key is _____ required to be in 'N' position at train receiving station when the instrument at train sending station has to be set to TGT. **(Always, Not)**

2) Removal of Shunt key say at Station 'B' prevents the operator at the other end station from setting to _____ position. **(TCF, TGT)**

3) Shunt Key should be _____ both at train receiving & train sending station, to set the instrument to TGT at train sending station. **(OUT, IN)**

III. Take Line clear by setting instrument to TGT at Station 'A' & take LSS to 'OFF', observe the LSS indication displays Green **Yes/No**

Remove the SM Key both at Stations 'A' & 'B'. Send the train into Block section & observe the following:

<u>At STATION 'A'</u>:

a) Whether LSS goes back to 'ON' position automatically? **Yes/No**

b) Whether LSS indicator on the panel shows RED? **Yes/No**

c) Whether the TOL indication lights automatically? **Yes/No**

d) Whether the TOL buzzer sounds? **Yes/No**

e) Whether it is possible to take 'OFF' the LSS again. **Yes/No**

At STATION 'B':

a) Whether the TOL indication lights up automatically? **Yes/No**

b) Whether the TOL buzzer sounds? **Yes/No**

c) If TOL buzzer sounds, is it **Continuous/ Intermittent**

d) Whether it is possible to acknowledge TOL code **Yes/No**

e) Insert the SM Key & now acknowledge TOL code **Yes/No**

Put back the LSS lever at Station 'A' to normal & receive the train by taking home signal to 'OFF' at Station 'B' and then bring the instruments to Line closed position.

IV. Take Line clear at Station 'A' & send the train into block section, put back the LSS lever to normal at Station 'A' & let the TOL code transmission be continued.

a) Press the bell code at button at Station 'A', is the single stroke bell heard at Station 'B' **Yes/No**

b) Try to speak on phone from Station 'A' to Station 'B', is speech transmitted to Station 'B' **Yes/No**

c) Press TGB button at Station 'A' & observe whether the instrument stops transmitting TOL code. **Stops/ Does not stop**

d) Keeping the TGB button pressed, also press once the BCB button & release at Station 'A'. Is single stroke bell heard at Station 'B' **Yes/No**

e) Keeping the TGB button pressed at Station 'A', communicate on phone with Station 'B' **Communication possible/ Not possible**

f) Now release TGB button & observe whether instrument at Station 'A' resumes the transmission of TOL code. TOL code transmission is **Resumed/ Not resumed**

g) Now let the TOL code be acknowledged at Station 'B' by pressing BCB till the buzzer stops ringing. Note whether the TOL code transmission starts repeating as BCB button is released at Station 'B'. **Yes/No**

h) Does the TOL visual indication persists at both stations. **Yes/No**

i) Receive the train without clearing the Home signal at Station 'B' & observe whether the train arrival buzzer sounds? **Yes/No**

j) Try at Station 'B' pressing BCB & LCB buttons to set the instruments to Line closed. Observe whether the instruments are set to Line closed. **Yes/No**

k) Now bring back the train in rear of the Home signal at Station 'B', clear the Home signal to 'OFF' & receive the train on signal. Does the train arrival buzzer sounds. **Yes/No**

l) Verify the complete arrival of train & replace Home signal lever to normal at Station 'B', does the train arrival buzzer stops sounding **Yes/No**

m) Now set the instruments to Line closed position **Possible/Not possible**

V. Carefully summarise the observations & fill in the blanks for the following:
Passage of the train into the block section does the following:

a) The _____ signal is replaced to _____ **(Home, LSS, OFF, ON)**

b) _____ indication appears both at train _____ end & train _____ end. **(TGT, TCF, TOL, Sending, Receiving)**

c) At train receiving end _____ sounds **(Train arrival buzzer, intermittent TOL buzzer)**

d) To acknowledge the TOL buzzer the operator at train _____ end presses _____ button till it stops. **(Sending, Receiving, TGB, BCB)**

e) During TOL code transmission it is not possible to transmit _____ code signal or _____ on telephone. **(TCF, TGT, Bell, speak)**

f) To enable Bell code transmission & communication during TOL code transmission, _____ button is to be kept pressed at _____ end. **(BCB, TGB, Sending, Receiving)**

g) If _____ button is released, the TOL code transmission is resumed. **(BCB, TGB)**

h) If train is not received on proper signal, the _____ buzzer will not sound at _____ end. **(TOL, Train arrival, Sending, Receiving)**

i) It is not possible for instrument to transmit _____ code unless the train is received on proper signal. **(TOL, TGT, TCF, Line closed)**

j) Train arrival buzzer sounding stops when _____ lever is replaced to normal. **(LSS, FSS)**

VI. a) Take line clear at Station 'A' by setting to TGT, dispatch a train into Block section & let the TOL code be acknowledged by Station 'B', observe whether it is possible to generate operational code by pressing any button at Station 'A' or Station 'B' **Possible/Not possible**

b) Is it possible to normalise any instrument **Yes/No**

c) Receive the train at Station 'B' & normalize the instrument.

VII. Take line clear at Station 'A', then take LSS to 'OFF' but do not dispatch the train. Note the counter reading at Station 'A'. Then press & release Cancel & BCB buttons & observe the following at station 'A'

a) Whether the counter registers higher number. **Yes/No**

b) Whether the 'FREE' indication is lit immediately with release of Cancel & BCB buttons. **Lit/Not Lit**

c) Whether the LSS goes back to 'ON' position automatically. **Yes/No**

d) Put back LSS lever to normal & again reverse it. Does LSS Signal clears again **Yes/No**

e) Put back the LSS lever to normal & observe after 120 seconds, whether the 'FREE' indication appears. **Yes/No**

f) Now let Station 'A', alone shall press BCB & LCB buttons & observe whether the instruments at both ends have come to Line Closed. **Yes/No**

g) Let Station 'A' now request for co-operation to Station 'B' by asking him to press BCB & LCB, also Station 'A' shall keep BCB & LCB pressed. Note whether the instruments come to Line closed condition. **Yes/No**

h) Observe whether the 'FREE' indication disappears as the instruments are set to Line closed. **Yes/No**

INFERENCE:

1) The counter registers next higher number when _____ & _____ button are pressed at sending end. **(TGB, SHK, Cancel, BCB)**

2) Once cancellation of Line clear has been initiated by pressing & releasing the BCB & Cancel button, it is _____ to take 'OFF' the LSS signal subsequently **(Possible, Not possible**)

3) _____ indication appears approximately after _____ seconds with SNR picked up. **(TOL, TGT, Free, 60, 120)**

4) Cancelling of Line clear requires the _____ of the other end operator unlike regular operation. **(Co-operation, no co-operation)**

Signature of the trainee