THAKUR COLLEGE OF SCIENCE AND COMMERCE

SEMESTER II YEAR: 2016 - 2017

PROGRAM: F.Y.B.Sc. (AVIATION) **DATE:**

SUBJECT: AIR NAVIGATION **MAX. MARKS: 75**

DURATION:02:30

Q.1. Attempt any three:- **(15)**

1. Define the following: a) Cycle, b) Hertz, c) Frequency, d) Amplitude, e) Wavelength.
2. Write a short note on "Space Waves"?
3. Write a short note on " SELCAL".
4. Calculate the following:

a) Frequency, when Wavelength is 3m.

b) Wavelength, when Frequency is 100 kHz.

c) Frequency, when wavelength is 10km.

Q.2. Attempt any three:- **(15)**

1. State the factors affecting range and accuracy of ADF.
2. State the principle and working of NDB and ADF.
3. State the principle and working of "VOR".
4. State the principle of operation of VSI.

Q.3. Attempt any three:- **(15)**

1. State the principle and working of ILS.
2. Write the Operational Categories of ILS.
3. State the errors of an ASI.
4. Calculate the following:-

a) Mach No. of an aircraft flying at an TAS of 400 kts at FL240, considering ISA conditions.

b) TAS of an aircraft flying at 0.8M at FL300, considering ISA conditions.

Q.4. Attempt any three:- **(15)**

1. State the errors of VSI.
2. Define the following:-

a) QNH, b) QFE, c) QFF, d) QNE, e) Altitude

3. State the construction and working of Altimeter.

4. Locate the aircraft as per the data given:-

CDI Indication: 3 dots to the left, A/c is homing to the station (State the TO/FROM Indication if the radial selected is correct

OBS - Radial 050°.

Q.5. <u>Solve the following:-</u> **(15)**

1. State the working of ASI.
2. Write a short note on Types of Gyros.
3. State the errors of Machmeter.
4. State the properties of Gyroscope.

*** ALL THE BEST ***