



Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : 50036

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017

Seventh Semester

Aeronautical Engineering

AE 6702 – EXPERIMENTAL STRESS ANALYSIS

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. What is meant by contact and non-contact extensometer ?
2. What is strain gauge ?
3. What are the conductor materials used for electrical resistance strain gauges ?
4. What is meant by load cell ?
5. What is photo elastic effect ?
6. What is three dimensional photo elasticity ?
7. What are the types of brittle coating ?
8. What is Moire effect ?
9. What is Non-destructive testing ?
10. What are the limitations of ultrasonic testing ?

50036



PART - B

(5×16=80 Marks)

11. a) What are various types of extensometer ? Explain the working principle of optical extensometer with neat sketch.

(OR)

b) Explain the working principle of Laser displacement sensor.

12. a) With suitable diagram describe the working of Wheat stone bridge also state its merits.

(OR)

b) Describe the circuit used for static and dynamic strain measurement.

13. a) Explain the working principle of circular Polaris cope.

(OR)

b) Describe the compensation and separation techniques used in photo elasticity.

14. a) Explain the equipments used for brittle coating technique.

(OR)

b) Explain any two failure theories of brittle coating.

15. a) What are various types of non-destructive testing ? Explain eddy current techniques with neat sketch.

(OR)

b) Explain the working principle of liquid penetrant testing.