M.E. Second Semester (Production Technology & Management) (P.T.) (CBS)

13535 : Productivity and Quality Management : 2 SPTM 2

P. Pages : 2 | **AW - 3695**

Time : Three Hours | Max. Marks : 80

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Notes :
1. All question carry marks as indicated.
2. Answer **Three** question from Section A and **Three** question from Section B.
3. Due credit will be given to neatness and adequate dimensions.
4. Assume suitable data wherever necessary.
5. Illustrate your answer necessary with the help of neat sketches.
6. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION - A

1. a) Determine the size of 'GO' and 'NOGO' gauges for components having $30\,H_7 \mid f_8$ fit. **8**
Being given with usual notations.
$i(\text{microns}) = 0.45\sqrt[3]{D} + 0.001D(D \text{ in mm})$
The upper deviation for f shaft = - 5.5 $D^{0.41}$ 30mm falls in the diameter step of 18 and 30.

b) Why is it necessary to give a tolerance on an engineering dimension? Give an example of both the bilateral and unilateral tolerances. **6**

2. a) Describe 'Standard (basic) hole' and standard (basic) shaft practices of fitting. What benefits are attributed to each? **7**

b) How the effects and interactions between the 'Grade' machining and 'Size' of job are correlated in computing actual tolerances according to I.S. System? **6**

3. a) Discuss the relative merits and demerits of the M(mean line) and the E (envelope) System of measurement of surface finish. **6**

b) State the possible causes of each of the various types of irregularities found in surface texture show how surfaces having the same numerical assessment may have different properties and textures. **7**

4. a) Describe the Wickman type gauge, for gauging thread elements. **7**

b) What are the elements of gears which are checked for accuracy? **6**

5. a) What are the potential applications of optical projectors for precision measurements and inspection? **6**

b) What is a co-ordinate measuring machine? Mention some of the applications of co-ordinate measuring machine. **7**

SECTION - B

6. a) Explain Deming's 14 point programme. **7**

	b)	"Managing through Kaizen results in improvement by zero investment". Discuss.	7
7.	a)	Describe various steps necessary to obtain ISO: 9000 standard registration.	7
	b)	Enlist and discuss modern quality problems.	6
8.	a)	How should a firm think about customer expectations & customer requirements in QFD?	7
	b)	How is SMED implemented? Discuss.	6
9.	a)	Explain partial productivity measures and total productivity measure & what are the advantages & limitations of both.	7
	b)	Explain 5 'S's principles of housekeeping in detail.	6
10.	a)	Define operating quality costs. Explain the major quality cost areas with their subelements in detail.	6
	b)	Explain the quality philosophy of 'Ishikawa' in brief.	7

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