

Con. 2272-08.

BB-8605

(3 Hours)

[Total Marks : 100

- N.B.** (1) Answer question No. 1 which is **compulsory** and any **four** from the **rest**.  
 (2) Real life examples will receive **more weightage**.  
 (3) Answers must be **brief** and to the **point**.  
 (4) **Figures** to the **right** indicate **full marks**.

1. ISO 9000 : 2000 series of standards on Quality Management System is based on the following eight management principles : **20**
- (a) Customer focus
  - (b) Leadership
  - (c) Involvement of people
  - (d) Process approach
  - (e) Systems approach
  - (f) Continual improvement
  - (g) Factual approach and
  - (h) Mutually beneficial supplier relationship.

Write contribution of Operation Research Techniques while addressing each of the above eight areas.

**OR**

1. ISO, 14001 : 2004 on Environmental Management System basically aims at the following five : **20**
- (a) Prevention of pollution (air, water, noise, land contamination)
  - (b) Conservation of natural resources (oil, water, paper, electricity, flora, fauna)
  - (c) Removal, reduction, recycling and reusing of all forms of wastages.
  - (d) Meeting and exceeding all applicable statutory and regulatory requirements and finally
  - (e) Continual improvement on all the above.

Write contribution of Operations Ressearch Techniques while addressing each of the above five tenets.

2. (a) List out functionwise decision making areas where Operation Research and/or other Quantitative Methods can be applied during setting up and running an industry. **14**  
 (b) Categorise them into Strategic, Tactical and Operational decisions. **6**
3. Write briefly on any **four** of the following :— **20**
- (a) Relationship of OR and Lean Sigma
  - (b) Application of OR in advertising budget decision
  - (c) Satisficing, Optimising and Adaptising.
  - (d) Critical success factors of OR
  - (e) Relationship of OR approach with RDMAICS (Recognise, Define, Measure, Analyse, Improve, Control, and Standardise) approach of six sigma.
  - (f) Integration of OR with Other World Clas Practices like TPM, QMS, EMS, OHSAS, and Lean Six Sigma.
4. (a) Itemise four key initiatives that an organisation can undertake to reach an World Class Status. **10**  
 (b) Clearly bring out how Operations Research (OR) can integrate these initiatives on a perpetual basis. **10**
5. (a) Highlight basic principles of Strategic Management and contribution of OR department in their fulfilment. **10**  
 (b) What, according to you, are the impediments toward integration of OR department in a large organisation with Manufacturing and Service functions ? **10**  
 As head of OR department how will vou tackle such issues ?
6. (a) List out ten OR techniques and provide at least one application area for each of the techniques in Industry, Business, Marketing and Administration. **10**  
 (b) Define Policy planning, Strategic planning and Operational planning. Explain the difference between three levels of planning by means of real life examples. **10**
7. (a) Explain the concept of Decision Support Systems and the role of OR in their development. **10**  
 (b) Highlight synergies between Decision Support Support and Management Information System towards overall improvement of profitability of an organisation. **10**