NON-OXIDE CERAMICS (SEMESTER - 8)

CS/B.Tech(CT)/SEM-8/CT-801B/09

1. ....
Signature of Invigilator

2. ....
Signature of the Officer-in-Charge

Reg. No. | | | | | | | | | | | | | | |

Roll No. of the Candidate | | | | | | | | | | | | | | |

CS/B.Tech(CT)/SEM-8/CT-801B/09

ENGINEERING & MANAGEMENT EXAMINATIONS, APRIL – 2009

NON-OXIDE CERAMICS (SEMESTER - 8)

Time : 3 Hours] [Full Marks : 70

INSTRUCTIONS TO THE CANDIDATES :

1. This Booklet is a Question-cum-Answer Booklet. The Booklet consists of **32 pages**. The questions of this concerned subject commence from Page No. 3.
2. You have to answer the questions in the space provided marked 'Answer Sheet'. Write on both sides of the paper.
3. **Fill in your Roll No. in the box** provided as in your Admit Card before answering the questions.
4. Read the instructions given inside carefully before answering.
5. You should not forget to write the corresponding question numbers while answering.
6. Do not write your name or put any special mark in the booklet that may disclose your identity, which will render you liable to disqualification. Any candidate found copying will be subject to Disciplinary Action under the relevant rules.
7. **Use of Mobile Phone and Programmable Calculator is totally prohibited in the examination hall.**
8. You should return the booklet to the invigilator at the end of the examination and should not take any page of this booklet with you outside the examination hall, **which will lead to disqualification**.
9. Rough work, if necessary is to be done in this booklet only and cross it through.

No additional sheets are to be used and no loose paper will be provided

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FOR OFFICE USE / EVALUATION ONLY

Marks Obtained

Question Number											***Total Marks***	***Examiner's Signature***
Marks Obtained												

....

Head-Examiner/Co-Ordinator/Scrutineer

8882 B/D (27/04)

DO NOT WRITE ON THIS PAGE

ENGINEERING & MANAGEMENT EXAMINATIONS, APRIL – 2009

NON-OXIDE CERAMICS

SEMESTER - 8

Time : 3 Hours] [Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer any *five* questions of the following.

1. What do you mean by graphitic carbon ? Discuss the essential structural features of graphite in relation to its important properties. State the effect of fabrication variables in processing during graphitization. Write in brief the thermal properties of graphite. 1 + 4 + 5 + 4

2. State the important methods of synthesising carbides. Mention the important properties of carbides and also their applications. Why SiC cannot be used as heating above 1400°C ? 5 + 6 + 3

3. State the important methods of synthesis of nitride. Why greasy feel appears in Boron Nitride ? Discuss in detail the synthetic method for the production of Si_3N_4 body. 5 + 3 + 6

4. Discuss the general techniques of consolidation of powder silicides. Write in detail the manufacturing method of $MoSI_2$ including the thermal nature of the process. State the important application and limitation of metal silicide. 5 + 5 + 4

5. What are Cermet ? What are the properties required for cermet ? State different factors affecting the strain of cermets. How cermets differ from conventional refractories ? What are the applications of cermet ? 1 + 2 + 5 + 3 + 3

6. What is Sialon ? How is it industrially prepared and what are their applications ? What are the other methods of preparation of Sialon ? 3 + 4 + 4 + 3

7. Why Sialon ceramics developed ? How many types of Sialon exist ? Is there any difference between the different forms ? If so, discuss their differences in detail. What are the methods used for consolidation of Sialon ? What are the sintering aid used during sintering of Sialon ceramics ? 2 + 2 + 1 + 5 + 2 + 2

END