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GENERAL KNOWLEDGE TEST FOR  
COMPETITIVE EXAMINATIONS

by

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To  
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Title of the report ..GENERAL KNOWLEDGE TEST FOR COMPETITIVE EXAMINATIONS

Name of the Author ..... Sasi Misra .....

Under which area do you like to be classified? ..OB Area.....

ABSTRACT (within 250 words)

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..... In this paper a schematic framework towards systematization  
..... of "General Knowledge" as <sup>test</sup> selection tool has been suggested.  
..... The standardized methods for GK test construction, <sup>test-</sup> format,  
..... and scoring procedure have been presented. It is hoped...  
..... that the framework presented in this paper will help the...  
..... decision makers in evolving more relevant GK tests, both...  
..... in terms of their content and design.  
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*None*

Date ..20/1/1975.....

Signature of the Author  
*Sasi Misra*

## GENERAL KNOWLEDGE TEST FOR COMPETITIVE EXAMINATIONS

Sasi Misra<sup>1</sup>

The selection process of candidates for most of the coveted jobs in India, such as, administrative, allied and police services, officers in nationalised banks etc., is an exhausting experience. This is mainly due to the extremely low selection ratio. For instance, the State Bank of India for its probationary officers cadre receives over 25,000 applications in any given year to fill only about 150 openings. Obviously, the predominant factor is the state of unemployment in the country.

Most of the applicants on their part do no prior analysis of their own motivation or their competence vis-a-vis the requirements of the job. It is left entirely to the UPSC and the employers in other major organizations to design appropriate selection procedures which would systematically weed out candidates who are either low on their competence level and/or lack desirable aptitudes. Therefore, for most of the prestigious jobs in the country, selections are made through competitive examinations.

The rationale for administering the General Knowledge test is that candidates with diverse academic backgrounds are allowed to apply for such positions, obviously on the assumption that these positions call for no specialized knowledge in any particular academic discipline. A Bachelor's Degree in any field is the only educational criterion of eligibility to apply for the position. However, I may add that post-selection training appropriate to the jobs is imparted to selected candidates. I presume, most employers at least implicitly use the GK test as a standardization device to short list candidates for the purpose of final selection. For instance, GK test is mandatory for and common to all: the IAS, allied Services and the IPS.

Though the General Knowledge test is given considerable weightage in the selection process the concept of GK is rather undefined. No systematic approach to the understanding of GK and GK test construction exists. In this paper, I wish to attempt a schematic framework towards systematization of "General Knowledge" and suggest standardized methods for GK test construction. The suggestions are based upon my evolving experience as consultant and involvement in the selection processes in some organizations.

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<sup>1</sup> The author wishes to thank Professors Ishwar Dayal and N.R. Sheth for many constructive suggestions in the preparation of this paper.

### GK and the concept of "wellrounded" man

The concept of general knowledge implies a person's degree of awareness of the world of people, ideas and happenings around him.. It is reflected in his understanding of and receptivity to the total environment of which he is a part. It is assumed that a candidate who has shown alertness and a desire to keep himself well informed, by assimilating knowledge on variety of topics of general interest, will have better and broader perspective in decision making. This is what many of us seem to imply when we picture someone as a "wellrounded" person. This, of course, does not refer to his midriff.

General knowledge, thus, is a very wide term connoting familiarity with such diverse topics of interest as space research and sports, and pollution and politics. It is presumed to reflect a person's general range of information, his varied interests and his curiosity about and responsiveness to things that happen around him. In addition to current happenings, it spreads back through significant events into the past and also includes an inkling into the foreseeable future.

- If the above reasoning regarding meaning of GK is generally valid, certain implications for operationalizing the sources of GK and GK test construction follow.

#### Sources of GK

Curiosity about one's environment prompts a person to take recourse to one or more of the several sources of information, such as, newspapers, magazines, books, radio and television, movies, discussions, etc. These sources help increase the person's general awareness of the total environment of which he is a part. The degree of awareness depends on the time and effort spent on learning from these sources and the person's ability to relate a present happening to a concept or fact learnt earlier.

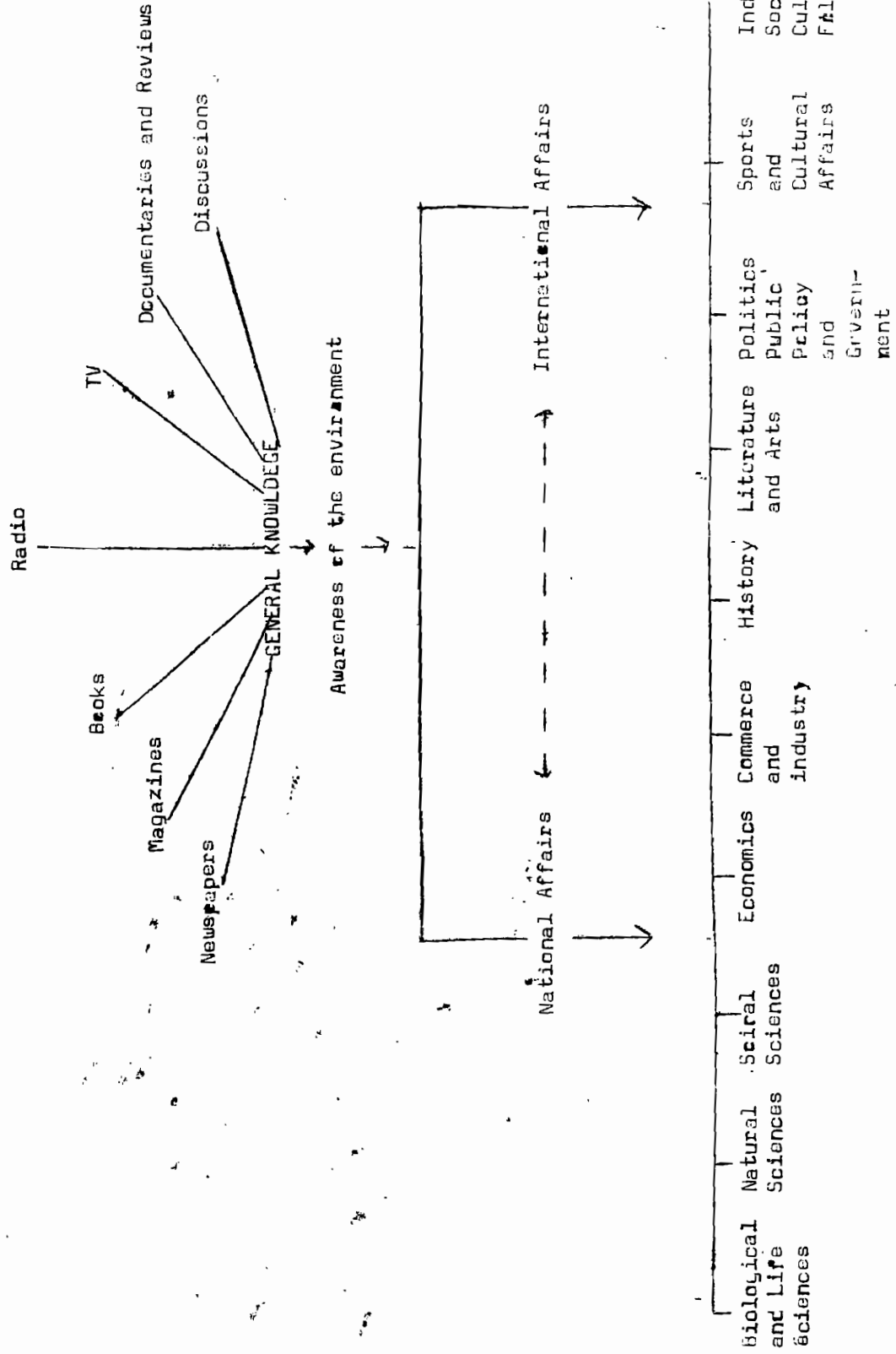
In one of my studies, a content analysis of some of the abovementioned sources revealed that the information from them could be classified into the following areas albeit disciplines:<sup>2</sup> (see Figure 1)

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<sup>2</sup> Admittedly, the various disciplines mentioned here do overlap. The list of disciplines indicated is by no means exhaustive.

FIGURE 1

CURIOSITY ABOUT ONE'S ENVIRONMENT



- Politics
- Economics
- Commerce and Industry
- Social and Behavioral Sciences
- Biological and Life Sciences
- Physical Sciences
- History
- Literature and Arts
- Sports and Cultural Events

Such content analysis is useful in ensuring that as far as possible, all areas of general interest are represented in the larger item pool generated for the test.

#### Test content

Since the sources of GK are mostly mass media, the items included in the test should be such that it would not presuppose specialized knowledge of a particular subject and lend itself to academic preparation. The test should have a balance of items from the various disciplines and the difficulty levels must be such that the probability of advantage to a candidate with specialization in a particular field is reduced to the minimum. However, if the employers decide to give more emphasis to certain disciplines as compared with others, the decision must be based upon relative importance and fittings of any particular discipline to the requirements of the job. Items that are encyclopaedic in nature and test only rote memory are to be avoided.

#### The coverage

The newsmaking events reported in the information sources pertain to national and international affairs. It is expected of the educated that their curiosity of the environment reach beyond state and national boundaries. However, one is expected to take note of events far removed from his immediate environment only if they have significant newsworthiness in the national context. One needs, for instance, to be familiar with the West-Asia conflict because it affects the economic order of some nations and world peace in general and is, therefore, an international issue.

A rough indicator of what foreign affairs are of concern in the national context is the coverage given to such items in the national mass media. For instance, who in recent times would fail to identify what made Watergate famous? Therefore, most of the 'current' items for the test may be drawn from these sources. Items drawn from foreign publications should be kept to a minimum because:

- a. they may not be significant in the national context,

- b. such publications are expensive and, hence, out of reach for the common candidate. Questions drawn from these sources will tend, therefore, to favour candidates coming from certain socio-economic backgrounds.

With respect to the dimension of time, events may be classified to fall into three categories: contemporary, recent past and enduring past. With the passage of time, current events recede to the recent past and the more prominent ones from the latter become a part of the enduring past. Item pools in the test may represent all the three periods. It is obvious that the 'current' part of the test needs to be updated every year. With the fast-changing national and international scene, the issues which are currently of major importance may get stale or forgotten in five to ten years. This phenomenon necessitates a periodical revision of the test items.

#### The test format

Depending on the context and type of learning to be tested, an objective test may assume any of the following formats: true-false, multiple-choice, completion, matching, and arrangement in order of magnitude, etc. Tests with multiple-choice items have proved to be the most widely applicable. They are also easier to score than certain other tests.

However, this format also has some disadvantages. Questions that will demand any kind of creative analysis from the candidate cannot be asked. Also, it allows the candidates a degree of guess-work. A candidate, to begin with, may not know the correct answer to a question, but by eliminating some improbable alternatives and randomly choosing one of the remaining alternatives he may hit upon the correct answer.

In the extreme case a candidate may not even care to read the question but may still attempt to answer it by arbitrarily marking any of the listed alternatives on his answersheet. It is likely that some of the alternatives thus chosen may turn out to be the correct answers. The malady of 'guessing' cannot be cured entirely but it can be reduced to a minimum by introducing a simple mechanism of penalty in the scoring procedure.

#### Scoring procedure

The simplest scoring procedure would be to give a credit for each correct answer. However, the total score thus obtained by a candidate may also include credit for some 'guess work.' To ensure that, on an average, guessing does not pay off, a penalty can be imposed for each wrong answer. The value of the penalty would depend on the number of alternatives to each question, and the extent to which credit from guess work should be neutralised.



For questions having five alternatives each, and a point for each correct answer, a penalty of 0.25 for each wrong answer will completely neutralize any gains from guess work. However, such a high penalty may induce the candidates to desist from making even educated guesses i.e. from answering questions which they are reasonably but less than cent per cent sure of the correct answers.

Assuming that there are five alternatives and a wrong answer is a result of guess work:

Probability of a guess being correct	=	1/5
Probability of a guess being wrong	=	1/4
Credit for a right answer	=	1
Penalty for a wrong answer	=	X

If gains from guess work have to be exactly neutralized

$$4/5X = 1.1/5$$

$$X = 1/5 \times 5/4 = 1/4$$

$$\therefore \text{Score} = \text{Right} - 1/4 \text{ wrong}$$

However, some questions might have less than five alternatives and in some other questions even though there are five alternatives, 'effective' alternatives are less than five i.e. 1-2 of the alternatives are likely to be perceived as improbable and would be ruled out by most of the candidates. Therefore, with average number of effective alternatives working out to less than 5, the penalty would obviously be greater than 1/4.

Furthermore, since in a general knowledge test it is extremely difficult to calculate a penalty which will exactly neutralize the gains from guess work, a nominal penalty can be imposed. The value of the nominal penalty should be such that it acts as a deterrent against indiscriminate guessing, and yet does not severely inhibit candidates in making 'educated guesses' where possible. It is therefore, suggested that the value of the penalty be somewhat less than 1/4 negative credit for each wrong answer, if one point credit is assigned for each correct answer. Thus, the final score for each candidate can be computed as follows:

$$\text{Total Score} = (\text{Number of items correctly answered}) - X(\text{Number of items wrongly answered})$$

where X is the value of penalty imposed for a wrong answer on a given item. Items not attempted do not enter into the computations.

### Test Construction

In this section, I shall not dwell upon outlining a detailed procedure for constructing item pools or determining the length of the test. The latter would obviously depend upon the weightage assigned to GK in the overall selection process. Academicians and practitioners with relevant expertise would be able to design the appropriate test

I may, however, mention that items in any GK test be informational rather than analytical in nature. In other words, items testing the problem solving ability of the candidate should not be included in the test as GK test is not a power test.

Secondly, the questions may be framed such that they are unambiguous and their language easy to understand. Among the alternatives in a multiple choice format only one should be the correct answer. At least 2-3 alternatives should be so framed as to read like correct answers. This ought to be done to ensure that a candidate does not arrive at the correct answer by merely rejecting other alternatives, all of which are highly improbable. For instance, consider the two sets of choices in search of the correct answer for the following question:

Which of the following countries at present does not have a woman Prime Minister?

#### Set A

- a) India
- b) Israel
- c) Sri Lanka
- d) None of the above

#### Set B

- a) India
- b) U.S.S.R.
- c) Sri Lanka
- d) None of the above

I believe that the alternatives presented in Set A would discriminate among candidates better than the alternatives presented in Set B.

Finally, if the test has to be administered to a large number of candidates at various centres all over India, parallel tests would have to be constructed for maintaining the confidentiality of the test and obtaining reliability estimates.

In this paper, I have assumed that the GK test serves an useful purpose in the selection process. I am well aware that this assumption can be questioned. In the main, I have suggested a framework for GK tests to be considered for use by decision makers who administer them in competitive examinations for selection. It is hoped that such an approach will help decision makers in evolving more relevant GK tests, both in terms of their content and design.