UNIVERSITY OF KARACHI



Department of International Relations

IR 622: Science, Technology and International Relations

Course Supervisor: Professor Dr. Syed Arif Kamal

Homepage: http://ngds-ku.org/kamal • *e-mail*: kamal(at the rate of)ngds-ku.org *Time Allowed*: 3 hours • *Maximum Marks*: 100 • *Date*: Tuesday, November 25, 2008

Student's Name_____ (in CAPITAL LETTERS using a "marker") • Paper Format A

Attempt Question 1 and 5 other questions. Each part of Question 1 is of 4 marks & of Questions 2-7 is of 8 marks. Note down the time spent on solving each part of question and time spent on revision by making the following "Time Chart" on the answerbook front page (2 marks). Time spent on revision must be at least 10% of the total time

Question No.	1a	1b	1c	1d	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	Revision
Time (minutes)																	

- a) DO NOT TURN PAPER AROUND unless the invigilator says: Start now
- b) This is a closed book examination. Deposit all BOOKS, NOTES, MOBILE PHONES (switched off), DIGITAL DIARIES and LAPTOPS in the designated area. Remove everything from your desk except markers, pens, pencils, stapler and calculator.
- c) If you want to use a calculator, it must bear a "sticker" displaying your NAME and your SEAT NUMBER large enough so that it is visible from a distance of 5 meters. Absolutely, NO sharing of calculators.
- d) Use your own material. **Nothing can be borrowed from or given to** a friend.
- e) The papers may be of different formats. Therefore, work on your own without consulting anyone (We have a record of your seating arrangement).
- f) Write your "NAME" on all pages of your question paper (5 marks shall be deducted for failing to comply) [NOTHING ELSE SHOULD BE WRITTEN ON THE QUESTION PAPER] and "PAPER FORMAT" on the front page of your answerbook (the upper right-hand corner) and the Yellow Sheet using a "marker". Start your work from Page 2 of your answerbook. The only thing that could be written on the front page is the "Time Chart" (see above) and the "Honor Statement" (see below).
- g) The following statement must be copied on the front page of your answerbook and signed (2 marks): "My signatures below testify that I am the person whose name and photograph appear on the Admit Card. Upon my honor, I declare that the following work is my own, completed without giving or receiving unacknowledged help, without copying, or the use of any unfair means." Signatures
- h) This paper contains TWO PAGES (This page and the back page). On invigilator's signal (*Start now*) turn paper around, check if you have the back

- page printed correctly. Last line of the second page is: <**END**>. Start working on the paper immediately.
- i) Put your pens down and your papers turned (so that this page is facing you) and the FRONT PAGE of your answerbook should be facing you as soon as you hear "ALL PENS DOWN". Failure to do as directed shall result in "deduction of 5 marks" from your score.
- *j)* If you use extra copies, it is "your responsibility" to write YOUR NAME, COPY NUMBER and all OTHER INFORMATION on each copy used. All the extra copies must be stapled with the main copy before turning in your paper (you may wish to bring in a stapler with you for this purpose).
- *k)* If you have a question of "Fill in the blanks" in your paper you must write the complete sentence with the filled word underlined.
- *l)* Nobody is allowed to leave the examination hall, **for whatsoever reason**, once the examination has started. Bring your own DRINKING WATER.
- *m)* Students are not allowed to LEAVE THEIR SEATS or STAND UP during the examination. If you have a query, "raise your hand" and someone will help you.
- *n)* All work, including rough work, must be on the official answerbook. No extra sheet may be used.
- *o)* Students are *not* allowed to use RED anywhere. All work (except figures) must be in pen or ballpoint.
- p) The result shall be displayed on my homepage on **Tuesday**, **December 16**, **2008** at **0900h**. DO NOT contact the Course Supervisor. Students are not permitted to see the answerbooks.
- q) Anyone found cheating in the examination should be facing disciplinary action, which may result in **EXPLUSION** or **SUSPENSION** for 2 or more years. **Absolutely, no conversation among students. DON'T TURN THE PAPER, YET.** Wait for "signal" from the invigilator.

_	Student's Name	(in CAPITAL LETTERS using a "marker")
		it for each answer part is one page and a half of the answer book. GLISH . Answers given in any other language shall not be graded.
1-a)		d policy different from Bush's implemented one?
1- <i>b</i>) 1- <i>c</i>)	The observations on which a scient reproducible, tolerable) by anyone observations at different places and observations are called (state observations one is said to be apply obtains a particular result from a general scient control of the	non-scientific statement. Give 2 examples of each. ific theory is based must be (thinkable, with the proper training and the facilities. If one takes at different times, one must obtain the same results. Such able, identifiable, acceptable). If one generalizes from specific aing (inductive, deductive, symbolic) logic. If one aneral law one is said to be applying (inductive,
1- <i>d</i>)		ons. List all of them (e. g., EXPLAIN current observations,). By a "hypothesis" become a law, passing through the stages of theory,
2)	Compare and contrast the space pro	ograms of USA and Russia (16 marks) – page limit: 3 pages
3- <i>a</i>)		del' and 'modeling'? One should model the system, the environment nature, sources of error). Elaborate by giving an example from
3-b)		t of a missile and a satellite? What is an ABM? Has any country or d performed experiments?
4- <i>a</i>)	effect?	ar accidents. Which of these accidents had the most long-lasting
4- <i>b</i>)	What is nuclear winter? How would	It affect the ecosystem of earth?
5-a)		nb? How is it different from atomic bomb and hydrogen bomb? ture, human beings, animals and forests?
5-b)	Describe the relative risk of use of r conflicts and "accidents"?	neutron bomb, atomic bomb and hydrogen bomb during armed
6- <i>a</i>)		he steps taken to tackle an industrial problem to reach its solution
6- <i>b</i>)		S has suffered from ill planning resulting in wastage of resources, environmental disaster. Name 2 situations.
7-a)	What fundamental measures have be (give at lest 5 measures)?	een taken by countries, which excelled in science and technology
7-b)		cientists and science professionals from our country (give 2

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measures)? How can we encourage scientists from abroad to come and settle in Pakistan (give 2

measures)?