

Residential Coaching Academy

Aligarh Muslim University, Aligarh

PARTICULARS TO BE FILLED IN BY THE CANDIDATE		English
Roll Number		2015 – 2016 ADMISSION TEST CSE
Name of the Candidate		
Name of the Centre		
Date of the Test		
Signature of the Candidate		

Time (Test Duration): 02 hours

Max. Marks: 100

INSTRUCTIONS

- Complete all entries on the cover page and put your signature in the space provided.
- Use only Ball Point Pen (black/blue) for making entries in the Question Booklet and the OMR Answer Sheet.
- Candidate should also read carefully the instructions printed on the Admission Test Card and the OMR Sheet before attempting to answer the questions.

1. The Question Booklet consists of 13 pages (including cover sheet and rough work sheet) and contains 100 questions. Count the number of pages and questions before attempting the questions. Discrepancy, if any, must immediately be brought to the notice of the Invigilator.
2. All questions are compulsory and carry equal marks.
3. The time (test duration) as specified above shall be reckoned from the moment of distribution of the Question Booklets.
4. Blank space in the Question Booklet may be used for rough work.
5. Each question is followed by four alternative answers. Select only one answer, which you consider as the most appropriate. Shade the relevant circle against the corresponding question number on the OMR Answer Sheet.
6. Answer should ONLY be marked on the OMR Answer Sheet. No answer should be written on the Question Booklet.
7. **The candidate (he/she) shall hand over the OMR Answer Sheet to the Invigilator before leaving his/her seat.**
8. There shall be no negative marking for wrong answers.

Read the passage and answer the following questions (1 – 4).

Passage

Socialists argue that socialism is about bringing human social organization up to the level of current technological capability to fully take advantage of modern technology. They argue that capitalism is either obsolete or approaching obsolescence as a viable system for producing and distributing wealth in an effective manner. Socialists generally argue that capitalism concentrates power and wealth within a small segment of society that controls the means of production and derives its wealth through a system of exploitation.

Socialists hold that capitalism is an illegitimate economic system, since it serves the interests of the wealthy and allows the exploitation of lower classes. As such, they wish to replace it completely or at least make substantial modifications to it, in order to create a more just society that would guarantee a certain basic standard of living. A primary goal of socialism is social equity and a distribution of wealth based on one's contribution to society, and an economic arrangement that would serve the interests of society as a whole.

1. How does capitalism support the 'system of exploitation'?
 - a. It exploits the limited resources of the society.
 - b. It does not guarantee a certain basic standard of living to all the stakeholders.
 - c. It does not take full advantage of the level of current technological capability.
 - d. It allows the exploitation of the lower class of society by a small segment of people.
2. Consider the following statements with respect to the passage:
 - I. Socialism is aimed at the general interest of the society rather than the interest of a specific few.
 - II. Socialism helps a nation progress more rapidly as compared to capitalism.Which of the statement(s) is/are valid?
 - a. Only I
 - b. Only II
 - c. Both I and II
 - d. Neither I nor II
3. The passage thematically centers on:
 - a. The use of modern technology
 - b. Evils of Capitalism
 - c. Social Equality
 - d. Socialist Economy
4. Consider the following inferences in reference to the passage:
 - I. Capitalism is aimed at serving only a small segment of the society and exploiting the other segments.
 - II. Socialism can create more 'just society' as compared to capitalism.Which of the following inference(s) can be drawn from the passage?
 - a. Only I
 - b. Only II
 - c. I and II both
 - d. Neither I nor II

Read the passage and answer the following questions (5 – 7).

Passage

Expectations play a role in how inflation actually shapes up, whichever school of economic thought you belong to or reject. Whether the government and the central bank are on top of the situation is an important determinant of those expectations. And this is something that the government leadership has control over, or should. A sense of helplessness, drift or of being behind the curve feeds inflationary expectations, pushing up actual levels of inflation in the future. The RBI's monetary actions have attracted the criticism that they have not been aggressive enough on inflation, but they have certainly been consistent, steadily withdrawing the extra accommodation extended to counter the post-Lehman slowdown. But the spat between the capital market and insurance regulators and the finance ministry's formal stamp of primacy in regulatory matters through the institution of the Financial Stability and Development Council, in the wake of that spat, have dented the authority of the central bank. This has detrimental effects on inflationary expectations. A similar logic applies to the government as well. It is not just its actions directly on the price front that determine its credibility on that front. The paralysis of Parliament is not entirely in the government's hands, but the seeming sense of drift at the top

even in matters that call for no legislative decisions certainly does not help.

5. What do inflationary expectations do?
 - a. Force the government to act
 - b. Force the Central Bank to act
 - c. Create a sense of helplessness and drift
 - d. Increase inflation
6. Government has direct control over which of the following to deal with inflation?
 - a. Inflationary expectations
 - b. The Central Bank and its monetary actions
 - c. Direct legislative decisions on the price front
 - d. Whether the government is on top of the situation
7. The RBI monetary activities have attracted criticism because
 - a. The RBI has not been aggressive to control inflation
 - b. The RBI is not consistent in its policies to control inflation
 - c. Both a and b.
 - d. None

Read the passage and answer the following questions (8 – 10).

Passage

Contemporary politics in India is characterized by issues and movements that seek to challenge and re-define the meaning of both democracy and development. The purpose of a development strategy that involves hardships, dispossession and displacement, supposedly in the pursuit of the development is being interrogated. How can a strategy of development be democratic if it does not take into account the sufferings that it brings upon a huge section of the citizens of India? From an easy and optimistic acceptance of India's development programmes and democratic structures and processes, citizens of India and indeed leading political analysts have in the 21st century moved towards a more questioning and critical attitude towards the issues of democracy and development.

8. On the basis of the passage consider the following statements:

I. Movements in contemporary politics wholeheartedly support the meaning of democracy.

II. Citizens of India have in the 21st century become more critical towards the issue of development.

Which of the statements given above is/are correct?

- a. I only
- b. II only
- c. Both I and II
- d. Neither I nor II

9. The passage is thematically centred on:

- a. Democracy and Development in contemporary India
- b. Contemporary politics
- c. Politics in India
- d. Democratic India

10. With reference to the passage, consider the following statements:

I. In the past, citizens were critical of India's development programmes and democratic structures and processes.

II. A democratic strategy of development takes into account the sufferings that may bring upon the people.

Which of the statements given above is/are correct?

- a. I only
- b. II only
- c. Both I and II
- d. Neither I nor II

11. Which state government has affirmed to give free education to SC/ST and young girls till Post Graduation?

- a. Bihar
- b. Jharkhand Uttar
- c. Pradesh Madhya
- d. Pradesh

12. Who is the 'father of operation flood'?

- a. Dr. Norman Borlaug
- b. Dr. S.M Swaminathan
- c. Dr. Verghese Kurrien
- d. Dr. William Gande

13. Antyoda Anna Yojna was launched on

- a. 13 April, 2000

- b. 15 December, 2000
 c. 25 December, 2000
 d. 1 January, 2000
14. Consider the following statements and identify the right one.
 I. A person having worked for less than one hour for one day of a week is termed as employed for a week
 II. The current daily status considers the activity of a person for each day of the preceding even day
 a. I only
 b. II only
 c. Both
 d. None
15. Which of the following state introduced Employment Gaurantee Scheme first
 a. Madhya Pradesh
 b. Maharastra
 c. Tamil Nadu
 d. Karnatka
16. Relative poverty is measured with
 a. Gini Coefficient
 b. Lorenz Curve
 c. Both a & b
 d. Poverty Line
17. Which of the following is associated with poverty estimation
 a. Tendulkar Committee
 b. Lakdawala Committee
 c. Saxena Committee
 d. All of the above
18. Who advocated that India would be truly independent only the poorest of its people become free of human suffering?
 a. Mahatma Gandhi
 b. Indira Gandhi Jawahar
 c. Lal Nehru Subhash
 d. Chandra Bose
19. Dr. Abdul Kalam's PURA refers to
 a. A model for growth of the metro cities
 b. Providing urban amenities in rural areas
 c. Providing urban amenities in urban areas
 d. A plan for urban and rural areas
20. Human Development Index is a composite index of
 a. Income, health and education indicators
 b. Health, education and quality of life indicators
 c. Poverty, human rights and unemployment indicators
 d. Income, trade and investment indicators
21. Kothari Commission (1964-66) gives emphasis on
 a. Expansion of Universal schooling
 b. Non-formal and continuing education
 c. Vocational education
 d. Reading materials
22. A Kisan Credit Card (KCC) Scheme was launched in the year
 a. 2001
 b. 2005
 c. 1998
 d. 1999
23. _____ is primarily a means to achieve social progress.
 a. Social security
 b. Social planning
 c. Social welfare
 d. All of the above
24. Which of the following statements are true about Barak 8?
 I. Barak 8 is surface to air missile
 II. It is developed by DRDO with the help of USA
 III. India uses two variants the naval Barak-NG and land based MR-SAM
 a. I and II
 b. II and III
 c. I and III
 d. All the above
25. According to GST Bill which of the following statement(s) is/are true?
 I. Centre will pay states full five year compensation for any revenue loss due to the introduction of the goods and service tax.
 II. It is exempted stock transfers within group companies from the 1% additional tax on Inter-state supplies.
 a. Only 1
 b. Only 2
 c. Both
 d. None
26. What is Inuit?

- a. Tribal houses of Australian indigenous people
 b. Name of fruit grown in Latin America
 c. Culturally similar indigenous people inhabiting the arctic regions
 d. Name of musical instrument
27. Which of the following schemes recently launched by Government of India (GOI) for Minorities?
 a. Nai Manzil
 b. Nai Roshni
 c. Nai Umang
 d. Nai Khoj
28. The Defence Research and Development Organisation (DRDO) has developed which poly-herbal medicine recently for the treatment of Vitiligo?
 a. Aukoskin
 b. Sukoskin
 c. Nukoskin
 d. Lukoskin
29. Which of the following state Assemblies recently passed resolution on abolishing death penalty?
 a. Manipur
 b. Arunachal Pradesh
 c. Tripura
 d. Meghalaya
30. Which of the following got accredited by the Green Climate Fund as a national implementing entity for undertaking climate change related projects in India?
 a. SIDBI
 b. NABARD
 c. MUDRA
 d. EPFO
31. On 15th August, which of the following campaigns was announced by Prime Minister Narendra Modi during his Independence Day Address?
 a. Start-up India, Stand-up India
 b. Start and Run India
 c. Learn and Earn India
 d. Skilled and Expert India
32. Which of the following provisions is not incorporated in the Judicial Accountability Bill recently approved by the Cabinet?
 a. The bill will mandate judges to declare assets and liabilities
 b. Oversight committee to be headed by a retired Chief Justice of India
 c. Public can lodge complaints against judges with a national oversight committee
 d. The bill also requires the judges to have close association with any member of the bar
33. Albedo of Earth's surface increases during:
 a. Increase in Solar Radiation
 b. Sea level rise
 c. Increase volcanic activity
 d. Expansion of ice sheet
34. The Himalayan small streams in India, sometimes disappear when they flow through:
 a. Bhabar
 b. Terai
 c. Khadar
 d. Bhangar
35. In which one among the following categories of protected areas in India are local people not allowed to collect and use the biomass?
 a. Wild Life Sancturaries
 b. Biosphere Reserves
 c. National Parks
 d. Wetlands declared under Ramsar Convention
36. A slow swinging motion of the Ramsar Convention of radiation is termed as:
 a. Revolution
 b. Nutation
 c. Precession
 d. Rotation
37. Rainbow is produced when Sunlight falls on drop of rain. Which of the following physical phenomenon are responsible for this?
 I. Dispersion
 II. Refraction
 III. Internal reflection
 Select the correct answer using the codes given below.
 a. I and III only
 b. II and III only

- c. I and II only
d. I, II and III
38. Consider the following statements and select the correct answer using the codes given below:
I. The population of children (0-6 years) has recorded a decline in the 2011 Indian census.
II. The population of people aged 60 and over in 2011 was more than 8 percent.
III. India's population over 60 years is declining.
Codes:
a. I and II are correct
b. I and III are correct
c. II and III are correct
d. I, II and III are correct
39. The International Astronomical Union stripped Pluto of its status as a planet on:
a. August 26, 2005
b. September 24, 2006
c. August 24, 2006
d. September 26, 2005
40. Arrange the following countries in a descending order in respect of production of natural rubber and select the correct answer using the codes given below:
I. India
II. Indonesia
III. Malaysia
IV. Thailand
Codes:
a. IV, III, II and I
b. IV, II, III and I
c. III, IV, II and I
d. III, IV, I and II
41. In which among the following Japanese Islands the Fukushima city is situated?
a. Honshu
b. Hokkaido
c. Kyushu
d. Shikoku
42. The Kaiga Atomic Power Station is in the state of:
a. Tamil Nadu
b. Rajasthan
c. Maharashtra
- d. Karnataka
43. Consider the following statements and select the correct answer from the codes given at the end.
Assertion (A): Low latitude deserts have the greatest daily ranges of temperature on the earth.
Reason (R): In deserts generally winds are dry and sky remains clear.
a. Both A and R are true and R is the correct explanation of A
b. Both A and R are true but R is not the correct explanation of A
c. A is true but R is false
d. A is false but R is true
44. Fish can survive inside a frozen lake because
a. Fish are warm blooded animals
b. Fish hibernate in ice
c. Water near the bottom does not freeze
d. Ice is a good conductor of heat
45. An iron hammer, lying in the sun, appears much hotter than its wooden handle because
a. Iron is at a higher temperature
b. Iron is darker than wood
c. Iron absorbs more heat
d. Iron is a good conductor of heat
46. Which of the following vitamin is essential for blood clotting?
a. Vitamin A
b. Vitamin D
c. Vitamin B
d. Vitamin K
47. On the moon, an astronaut cannot drink lemonade with the help of a straw because
a. Acceleration due to gravity on the moon is less
b. There is no atmosphere on the moon
c. Lemonade evaporates instantaneously on the moon
d. None of the above
48. Which of the following is a non metal that remains liquid at room temperature
a. Bromine
b. Phosphorous

- c. Chlorine
d. Helium
49. Which chamber of human heart pumps fully oxygenated blood to aorta and hence to the body?
a. Right auricle
b. Left auricle
c. Right ventricle
d. Left ventricle
50. Who among the following is recognized as the father of immunology?
a. Robert Koch
b. Louis Pasteur
c. Edward Jenner
d. Ferdinand Kohn
51. Between which of the following sets of blood groups, is the blood transfusion possible?
a. A and O (A donor)
b. B and A (B donor)
c. A and AB (A donor)
d. AB and O (AB donor)
52. Which one of the following is not caused by nutritional deficiency?
a. Kwashiorkor
b. Haemophilia
c. Beri-beri
d. Marasmus
53. Which of the following diseases is caused by a protozoa?
a. Cholera
b. Malaria
c. Tuberculosis
d. Typhoid
54. Which one of the following causes the chikungunya diseases?
a. Bacteria
b. Helminthic Worm
c. Protozoan
d. Virus
55. Who discovered the polio vaccine?
a. Louis Pasteur
b. Konard Zuse
c. Eli Whitney
d. Jonas Salk
56. GM brinjal has been developed in India for
a. Enhancing shelf life
b. Enhancing mineral content
c. Drought resistance
d. Insect resistance
57. Main aim of human genome project is to
a. Introduce new genes into human beings
b. Identify and sequence all the genes present in human DNA
c. Develop better techniques to compare two human DNAs
d. Remove disease causing genes from human DNA
58. India is a—
a. Sovereign, Socialist, Republic
b. Sovereign, Democratic, Republic
c. Sovereign, Socialist, Democratic, Republic
d. Sovereign, Socialist, Secular, Democratic, Republic
59. Which of the following is directly elected by the people?
a. Rajya Sabha
b. State Legislative Council
c. Vice President
d. Panchayat Bodies
60. Who among the following served as the advisor to the Constituent Assembly of India?
a. Dr. B.R. Ambedkar
b. Sir Alladi Krishna Swamy Ayyangar
c. Sir B.N. Rau
d. Jawaharlal Nehru
61. Which of the following is an elected office?
a. Prime Minister of India
b. Governor of a state
c. Administrator of Union Territories
d. Member of State Legislative Assembly
62. The Constitution of India was adopted on:
a. 26.01.1950
b. 26.12.1949
c. 26.11.1950
d. 26.11.1949
63. The bulk of the Constitution became operative on 26.01.1950 and is celebrated in

- India as the Republic Day but this date is referred to in the Constitution as it:
- Date of enforcement
 - Date of implementation
 - Date of commencement
 - Date of regulation
- The provision of reservation in government employment is provided by which article of the Indian Constitution?
 - Article 15(4)
 - Article 16(4)
 - Article 19(4)
 - Article 22(4)
 - Who presides over a joint sitting of the two houses of the Parliament?
 - The Deputy Chairman of Rajya Sabha
 - The Vice President of India
 - The Speaker of Lok Sabha
 - The President of India
 - In which of the elections, the system of proportional representation by means of the single transferable vote is NOT applied?
 - The President of India
 - The Vice-President of India
 - Members of Rajya Sabha
 - Members of Lok Sabha
 - The Right to Constitutional Remedies is guaranteed to the citizens by:
 - Article 42
 - Article 22
 - Article 12
 - Article 32
 - The Right to Property in India, at present, is a:
 - Fundamental Right
 - Natural Right
 - Legal Right
 - Moral Right
 - The idea of the Basis structures of the Constitution is the product of:
 - Constitutional Amendment by the Parliament
 - Provision of the Original Constitution
 - The Government of India Act, 1935
 - Judgement of the Supreme Court of India
 - A Money Bill is defined in which article of the Indian Constitution?
 - Article 210
 - Article 310
 - Article 110
 - Article 10
 - The first Factory Act was passed in:
 - 1882
 - 1892
 - 1881
 - 1885
 - Vasco da gama belonged to
 - Portugal
 - Spain
 - England
 - France
 - The sultan who selected the city of Agra as his capital:
 - Mohammad bin Tughlaq
 - Alauddin Khilji
 - Balban
 - Sikandar Lodi
 - The Pakistan Resolution was drafted by
 - Rahmat Ali
 - Sikandar Heyat Khan
 - M.A. Jinnah
 - Fazl-ul-Haque
 - The Indian Patriotic Association was formed by:
 - Syed Ahmad Khan
 - Theoder Beck
 - Altaf Hussain Hali
 - Mohsin-ul Mulk
 - The age when the prehistoric man began to use stones for utilitarian purposes is termed as:
 - Mesolithic Age
 - Stone Age
 - Neolithic Age
 - Both B and C
 - In the Vedic Age *Daiya* marriage was considered the ideal marriage in which:
 - Marriage of a duly dowered girl to a man of the same class.
 - The father gives a daughter to a sacrificial priest as a part of his fee.
 - A token bride-price of a cow and is bull given in place of the dowry.
 - The father gives the girl without dowry and without demanding the bride-price.

78. When and where the second Buddhist Council was held?
- In 483 BC at Sattapanni cave
 - In 383 BC at Vaishali
 - In 236 BC at Pataliputra
 - None of these
79. Name the King who assumed the title of *Maharajadhiraja*.
- Sikandra Gupta
 - Samundra Gupta
 - Chandra Gupta I
 - Chandra Gupta II
80. Gopuram and Garbhagriha are the important architectural features of:
- Hoyasala Art
 - Chola Art
 - Both A and B
 - None of these
81. The arrival of Babur into India led to the introduction of:
- Islam in the subcontinent
 - Gunpowder in the subcontinent
 - Arch and dome in the architecture
 - Both A and B are correct
82. In Delhi Sultanate the *amir-i hajib* work as:
- The master of ceremonies at the court.
 - In charge of household
 - Head of the *diwan-i wizarat*
 - None of these
83. Who propounded the theory of Nurjahan 'Junta':
- Irfan Habib
 - Harbans Mukhiya
 - S. Nurul Hasan
 - Beni Prasad
84. Which of the following Mughal emperor banned *Sijda* before the ruler and forbade the *Kalma* being inscribed on coins?
- Akbar
 - Jahangir
 - Aurangzeb
 - Shahjahan
85. The theory of 'Jagirdari Crisis' is propounded by:
- Irfan Habib
 - Satich Chandra
 - Francois Bernier
 - M. Athar Ali

Directions (86-87): In each of the following questions there are three statements. Which are followed by four conclusions? Choose the conclusions which logically follow from the given statements.

86. **Statements:**

- All the locks are keys.
- All the keys are bats.
- Some watches are bats.

Conclusions:

1. Some bats are locks.
2. Some watches are keys.
3. All the keys are locks.

- Only (1) and (2)
- Only (1)
- Only (2)
- Only (1) and (3)

87. **Statements:**

- Some questions are answers.
- Some answers are writers.
- All the writers are poets.

Conclusions:

1. Some writers are answers.
2. Some poets are questions.
3. All the questions are poets.
4. Some poets are answers.

- Only (1) and (2)
- Only (1) and (4)
- Only (1) and (3)
- Only (2) and (4)

88. What should come at the place of (?) in the given series? Ace, Fgh, ?, Pon

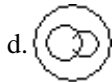
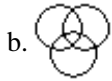
- Kkk
- Jki
- Hjh
- IkI

89. The number of boys in a class is three times the number of girls. Which one of the following numbers cannot represent the total number of children in the class?

- 40
- 42
- 44
- 46

90. One morning after sunrise Vikram and Shailesh were standing in a lawn with their back towards each other. Vikram's shadow fell exactly towards left-hand side. In which direction Shailesh was facing?
- East
 - West
 - North
 - South

91. Which of the following diagrams indicates the best relation between Profit, Dividend and Bonus?



Direction (92): There are 8 houses in a line and in each house only one boy lives with the conditions as given below:

- Jack is not the neighbour Siman.
 - Harry is just next to the left of Larry.
 - There is at least one to the left of Larry.
 - Paul lives in one of the two houses in the middle.
 - Mike lives in between Paul and Larry.
92. If at least one lives to the right of Robert and Harry is not between Taud and Larry, then which one of the following statement is not correct?
- Robert is not at the left end.
 - Robert is in between Simon and Taud.
 - Taud is in between Paul and Jack.
 - There are three persons to the right of Paul.
93. One New York publisher has estimated that 50,000 to 60,000 people in the United States want an anthology that includes the complete works of William Shakespeare. And what accounts for this renewed interest in Shakespeare? As scholars point out, his

psychological insights into both male and female characters are amazing even today. This paragraph best supports the statement that

- Shakespeare's characters are more interesting than fictional characters today.
- People even today are interested in Shakespeare's work because of the characters.
- Academic scholars are putting together an anthology of Shakespeare's work.
- New Yorkers have a renewed interested in the work of Shakespeare.

94. A few states in this country are considering legislation that would prohibit schools from using calculators before the sixth grade. Other states take a different position. Some states are insisting on the purchase of graphing calculators for every student in middle school.

This paragraph best supports the statement that in this country

- There are at least two opinions about the use of calculators in schools.
- Calculators are frequently a detriment to learning math.
- State legislators are more involved in education than ever before.
- The price of graphing calculators is less when schools buy in bulk.

95. Today's workforce has a new set of social values. Ten years ago, a manager who was offered a promotion in a distant city would not have questioned the move. Today, a manager in that same situation might choose family happiness instead of career advancement.

This paragraph best supports the statement that

- Most managers are not loyal to the corporations for which they work.
- Businesses today do not understand their employees needs.
- Employees' social values have changed over the past ten years.
- Career advancement is not important to today's business managers.

Directions (96-98): In each question a statement followed by two courses of action numbered I and II. You have to assume everything in the statement to be true and on the basis of the information given in the statement, decide which of the suggested courses of action logically follow(s) for pursuing.

Give answer:

- a. If only I follows
- b. If only II follows
- c. If both I and II follow.
- d. If neither I nor II follows

96. **Statement:**

A large number of people in ward X of the city are diagnosed to be suffering from a fatal malaria type.

Courses of Action:

1. The city municipal authority should take immediate steps to carry out extensive fumigation in ward X.
2. The people in the area should be advised to take steps to avoid mosquito bites.

97. **Statement:**

Severe drought is reported to have set in several parts of the country.

Courses of Action:

- a. Government should immediately make arrangement for providing financial assistance to those affected.
- b. Food, water and fodder should immediately be sent to all these areas to save the people and cattle.

98. **Statement:**

Most of those who study in premier engineering colleges in India migrate to developed nations for better prospects in their professional pursuits.

Courses of Action:

- a. All the students joining these colleges should be asked to sign a bond at the time of admission to the effect that they will remain in India at least for ten years after they complete education.
- b. All those students who desire to settle in the developed nations should be asked to pay entire cost of their education which the governments subsidize.

99. How many days are there in x weeks x days?

- a. $7x^2$
- b. $8x$
- c. $14x$
- d. 7

100. Choose the word which is least like the others word in a group?

- a. Calendar
- b. Date
- c. Day
- d. Month

SPACE FOR ROUGH WORK