

# THE RUH (PNEUMA)- THE CONCEPT WITH CLARITY

<sup>1</sup>Farzana Khatoon, <sup>2</sup>Lubna, <sup>3</sup>Prof AshharQadeer, <sup>4</sup>Prof Ferasat Ali,

<sup>1</sup>PG Scholar, <sup>2</sup>PG Scholar, <sup>3</sup>Professor, <sup>4</sup>Chairmen & Professor

Deptt of Kulliyat

Ajmal Khan Tibbia College, AMU, Aligarh, India

**Abstract:** *Ruh (Pneuma) is one of the basic factor studied under "Umooor-e-Tabi'yah" (The factors of physic). Ruh stands for "Pneuma", which is an ancient Greek word represents "breath". Pleural form of Ruh is Arwah. It also represents such constituents, which the body receives from atmospheric air and without which sustenance of life cannot be imagined. In Unani classical literature there are many views about Ruh. In religion and philosophy it has been described as synonymous to soul and psyche (nafs). Ruh obtain from external air. It gives the materialistic source (Madda) of all powers proper functioning. Renowned Unani physicians RabbanTabri used term power as the synonym of Ruh. Due to different views about Ruh, it is need today to put forth a concrete definition and description of Ruh. In this paper we will report the proper definition, its substance, origin, and its modern perspectives.*

**Index terms-** *Ruh, Quwa (Power), Materialistic Source (Madda)*

## 1. INTRODUCTION

In Unani medicine, Basic factors are classified into seven main groups which are called "Umooor-e-Tabaiya", the essential constituents and the working principle of the body, namely *Arkan* (Elements), *Mizaj* (Temperament); *Akhlat* (Humors); *Aza* (Organs); *Arwah* (Life spirit, pneuma); *Quwa* (Faculty); and *Afaal* (Action). *Ruh* is an Arabic word stands for "Pneuma". In the Arabic the word *Ruh* connotes different meanings. It is also used for *Arq (Itar)* which is obtain from extraction of plants. In religion and philosophy it has been described as synonymous to soul and psyche (*nafs*)<sup>1</sup>. Sometimes it is used for those minerals which evaporate after converting into vapours like mercury and sometimes it is used for power (*Quwwat*)<sup>2</sup>. All biochemical substances which are present in human body and produce energy and gives stimulus of different kinds of power for proper functioning. Some physicians have misconceived that general energy as *Ruh*. They have described *Ruh* as energy and contained that *Ruh* is produced by *akhlatlatifa*. It is actually absorbed from atmospheric air into blood through lungs and produce energy by oxidation of energy yielding substances. So oxygen is a major part of *Arwah*. For understanding of concept of *Ruh* it is necessary to understand, what is *Hawa-e-Muheet*, *Hawa-e-Mushtanshak*, *JauharRuh* and *Naseem*. Here we will clear the concept of *Ruh* in respect of all gases which burn with fine humours (*Lateef Akhlat*) in the light of older concept to present view.

## 2. Ruh Defined As,-

Unani physicians have described *Ruh* in different ways: they also differ to a great explaining its source. Some have considered it is materialistic while some others immaterial. According to some physicians the source of *Ruh* is external air while some others have denied it. Having a considered *Ruh* is not the atmospheric air as such; instead it is produced in the heart by atmospheric air and light part of '*Akhlat*'.

### ❖ According to Galen (129-200 AD) ,

"*Ruh* is a part of atmospheric air which entered the lungs from the air through the respiration and then into the heart."<sup>2</sup>

### ❖ Majusi (930-994 AD) and Some physician have described *Ruh* as a non-physical entity and they have held *Ruh* as a vehicle of nafs.<sup>3</sup>

### ❖ Abu sahlMasih (1010 AD) was the same opinion as Galen said about *Ruh*:

"*Ruh* is inhaled inside through the respiration and there it undergoes some changes and gets converted into *Ruh-e-haywani* (animal soul)."<sup>2-4</sup>

### ❖ Ibn sina (980-1037 AD) also described *Ruh* as a physical entity , but committed an error in differentiating between *Naseem* (light part of external air) and *Ruh*. He says-

"The air is element (*unsur*) for our body and *arwah*. This air is a constituent of our body and soul, In addition, it is a sort of help which constantly reaches to soul and sustain it and *Ruh* is produced by delicate and vaporous part of humours in the same way as organ are formed by dense and earthen part of humours."<sup>4-6</sup>

### ❖ AllamaBurhanuddinNafis (1409-1449 AD), a devoted followers of *Ibne-Sina*, has advocated this view in his commentary of *Mujaz al-Qanoon* refuted Galen's view in this regards. He write

"Since *Ruh* is strengthened by food and it is weakened when food is stopped, it is proved that *Ruh* is produced by humours. If respiratory air had been responsible for the production of *Ruh* as Galen had stated. Suspension of food would not have weakened the body."<sup>6</sup>

### ❖ Hakim Ali Gilani (1558-1606 AD) Writer of *Jami'ulsharahain*, also accept that production of the *Ruh* begins in lungs.<sup>7</sup>

So, if we conclude all above concepts and definitions of *Ruh* then we can say that,

"*Ruh* is a part of Umooor-e-Tabi'ya and it is a materialistic pillar, matter of *Ruh* depends on two things, first one is *JauharRuh* which is based on external air (*hawayemuheet*) and second is Fine humour (*Khilt Lateef*) which is the *jauhar-e-faa'l* (Functional component) of diet."

## 3. SUBSTANCES (Madda) OF RUH AND ITS ORIGIN

According to *IbneSina* and his followers Substance of *Ruh* are *JouharRuh* and *Khilt Lateef*<sup>8</sup>. *JauharRuh* is found in the atmospheric air & *Akhlatlatifah* (fine humours) is a part of *Khilt* (Blood), which diffuse and produce energy. When the air is inhaled through inspiration, this essence of air is separated in the lungs. It get separated from the air by the selective power (*quwat al-Mumayizah*) and is absorbed into blood and becomes a part of body. When this essence comes into contact with blood, *jauharRuh* comes into existence. So the oxygen outside the

body is not called as *Ruh* but it is a simple of constituents of atmospheric air. However, when it enters inside the body and virtually becomes its part by getting absorbed into body, it becomes *Ruh*. This *Ruh* reaches to the heart which pumps it to all the organs and tissues.

#### 4. TYPES OF RUH

*Ruh* circulates in the whole body and is essential for performance of different physiological functions by different organs. When it assisting heart and provide material for stimulation of Vital power with whole body named as *Ruh-e-Haiwaniyah* (Vital breadth) when it is found helping liver it is named as *Ruh-e-Tabiyah* (Natural Breath) and in case of nervous functions it is known as *Ruh-e-Nafshani* (Mental breath)<sup>7</sup>. So *Ruh* is present in whole body with respect of different kind of Power.

**5. Discussion-**After analysing the concepts laid by the physicians about *Ruh*, we can say in short that there are two different groups of Physicians. One group of physicians held the opinion that *Ruh* is UnsurReeh or Hawa and other group held the view that *Ruhand* Hararatghareezia (Innate heat) are same. For those physicians who believed that *Ruh* and hararatghareezia are one things, maddaof *Ruh* is jauharRuh and khiltlateef which burn together and produce energy. But In our Opinion, the concept of *Ruh* given by IbneSina and his followers is not correct and it should be repudiated. Because hararatgareeziya is different things. If we assume that *Ruh* is hararatghareezia then we cannot differentiate the unurnaar from unsurreeh. Through concept of death given by *SahabKamil, Ibne Abbas Majoosi*, this can be easily understood

“Death occurs when Matter of Hararatghareezia is vanished off then hararatghareezia get cool, as may be seen in surgical case of arteries and capillaries in which blood loss is too much and patient die.” He further says that, Hararatghareezia become altered due to Adam Tanffus (Asphyxia), which may be seen in those people who died due to the strangulation<sup>9</sup>.

However the above mentioned concept of *Ruh* has to be turned down. Because at that time Unani physicians had limited knowledge about Hawa-e-Muheet, Hawa-e-Mushtanshak, Jauhar-e-Ruh and Naseem.

**Hawa-e-Muheet / Hawa-e-Kharji (Atmospheric air)** – Atmospheric air is the air which is prevailing under Atmospheric conditions. By volume, dry air contains 78.09% nitrogen, 20.95% oxygen, 0.93% argon, 0.04% carbon dioxide, and small amounts of other gases. Air also contains a variable amount of water vapour, on average around 1% at sea level, and 0.4% over the entire atmosphere<sup>10</sup>.

**Hawa-e-Mushtanshak (Inhaled air)**-The component of atmospheric air which is taken by lungs and carried forward to the humours. Inhaled air contains approx. 21% oxygen, 0.04% carbon dioxide and 79% nitrogen.

**Jauhar-e-Ruh (Essence of Air)** - When the air is inhaled through inspiration, this essence separate in the lungs and comes into contact with blood, the Jauhar-e-Ruh comes into existence.

**Naseem (Oxygen)**- It is lateef (Light), Bukhari (Gaseous) gaseous substance which maintain external and internal respiration and metabolic activities.

Mizaj of Hawa-e-Mushtanshak is Garam Tar (Hot and Moist) while Mizaj of Naseem (Oxygen) is GaramKhusk (Hot and Dry) because it burns out easily with Dam (Consuming part of diet which produce energy) and Mizaj of Blood is Garam Tar (Hot moist). So moistness of blood and hawa-e-mushtanshak compensate the dryness of (Ruh) oxygen and prevent it from burning.

So the view of Galen and Abu sahl Masihi are nearest to the scientific interpretations. As emphasized by Galen in his explanation that *Ruh* is obtained from atmospheric air (Hawa-e-Muheet) that enters the lungs during inspiration (Hawa-e-Mushtanshak) and reaches lung alveoli where oxygen (Ruh) is separated from it and later absorbed into blood. He also forecast that one day this *Ruh* (Oxygen) would be isolated from the atmospheric air (Hawa-e-Muheet). A 17<sup>th</sup> century Fresnch chemist, Lewazir, proved the truth of his forecast and named it Oxygen.

**HkmTaskheer Ahmad** in his Book *KulliyatUmooreTabaiya* says that according to Unani Physicians said that, *Ruh* is a lateefbukharijism (gaseous matter) which is mixed in the blood and other fluids of body just like the air mixed in water externally<sup>8</sup>.

**Thus the *Ruh* may be defined as:**

“*Ruh* is a light gaseous substance, obtained from the hawa-e-Mushtanshak (Inspired air). It maintain external and internal respiration and all metabolic activities of the body; it burns with akhlatlatifah to produce all kinds of quwa (powers) and maintain hararatghariziya (innate heat); it is the source of vitality for all the organs of the body”.

**So *Ruh* is nothing but Oxygen (Naseem).**

There is no organ in the body left without *Ruh*. Where there is blood, there is *Ruh* (Table 1). Rutubattajawif tissue fluid also contain *Ruh*. The organs which are not supplied with blood their supply of *Ruh* is met with by other akhlat, which carry *Ruh* to those structure.

**Table 1. Quantity of Blood (Hamil *Ruh*, AkhlatLatifa and others) in different organ**

	<i>mL/minute</i>	<i>mL/minute/100 grams</i>	<i>% of total blood flow</i>
Brain	700	50	14
Heart	200	70	4
Kidneys	1100	360	22
Liver	1350	95	27
Muscle (inactive)	750	4	15
Bone	250	3	5
Skin (cool weather)	300	3	6

**5. ROLE OF RUH (OXYGEN) IN RESPIRATION**-In physiology, respiration is defined as the movement of *Ruh* (oxygen) from the outside environment to the cells within tissues, and the transport of bukhardhukhania (carbon dioxide) in the opposite direction.

**External respiration** refers to gas exchange across the respiratory membrane (alveolar membrane) in the lungs<sup>11</sup>. (Fig 1)

**Internal respiration** refers to gas exchange across the membranes between blood vessels and metabolizing tissues<sup>11</sup>. (Fig1)

**Cellular respiration** is a set of metabolic reactions and processes that take place in the cells of organisms to

Convert biochemical energy from nutrients into usable energy in the form of ATP<sup>11</sup>.

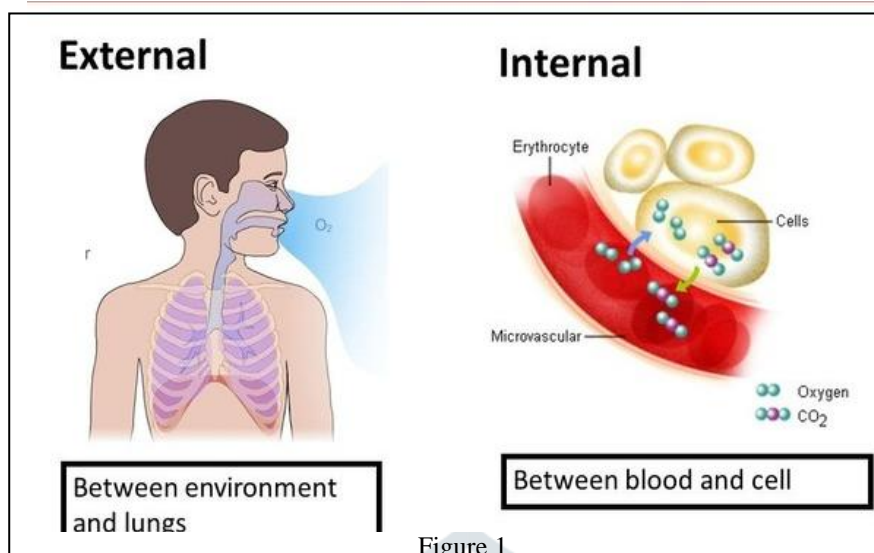


Figure 1

**6. ROLE OF RUH (OXYGEN) IN RELEASE OF ENERGY**

Cell extracts energy from oxygen and one or more of the food stuffs- protein, fats, and carbohydrates. In human body proteins are converted into amino acids, fats into fatty acids and carbohydrates into monosaccharides mainly glucose, before reaching the cells. Inside the cell, these foodstuffs react chemically with O<sub>2</sub> under the influence of various enzymes. The same food, burnt in an actual fire outside the body in the presence of oxygen, gives off large amount of energy.<sup>18</sup> it is observed in daily life that when coal or wood is burnt or a lamp is lit, heat is produced. There are two elements involved in the process of burning i.e. coal and oxygen. Coal or oil cannot burn without oxygen and vice-versa.

Fig. 2 The example of the internal oxidation (*Ihtiraque*) in the human body is given by Unani physician & Author of *Kamil-us-Sanaat, Majoosi* (930-994) with the burning of coal or glowing of lamp in outside world (fig 3) & compared the external air needed for respiration,



Figure 3

He has compared the oil of the lamp with that of fine humours (*Akhlatlatifah*)- The nutrients ; and the smoke of the lamp has been compared with the carbon dioxide (*bukharatdukhania*) of the blood, whose excess extinguish the lamp of life. *Majoosi* given the name of LAMP OF LIFE, is *CHIRAAQ-E-HAYAT*. (Fig 4)

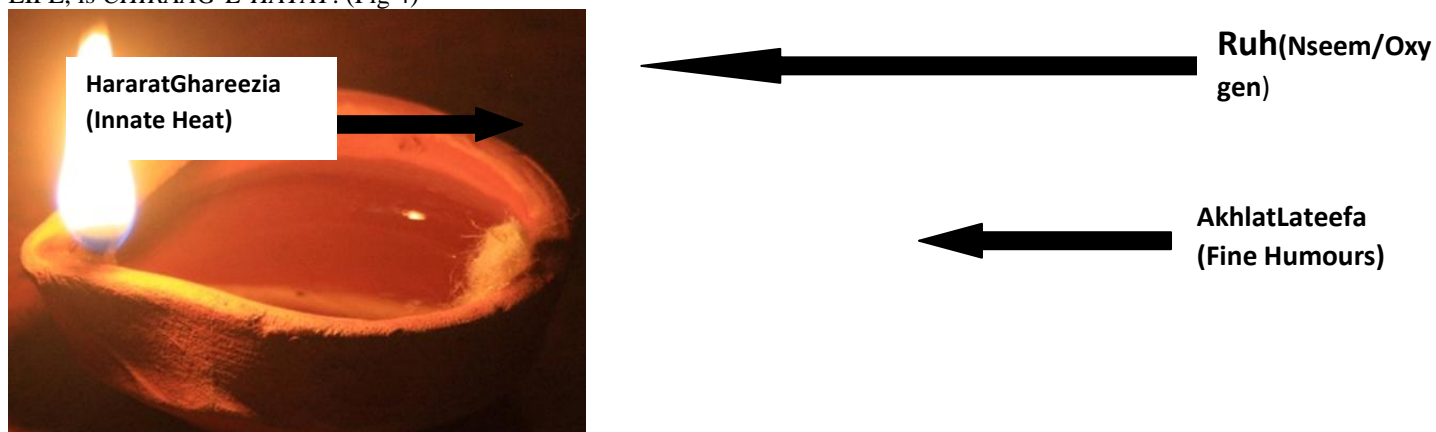


Figure 4 Lamp of Life (*chiragh-e-hayaat*)

The only difference between the two, oxidation (*Ihtiraque*) is that process of production of energy that heat is organised and controlled manner, whereas in the external world the coal is burnt abruptly and the energy is also released abruptly. The internal heat (*hararat*) is released with normalcy (*i'tadaal*) which is essential for the maintenance of health. This very normal heat is called innate heat (*hararatghariziya*)<sup>7</sup>

In the same way heat is produced in the body. This is called metabolism (*Istehalah*) in Unani terminology. *Istehalah* consists of two processes

- (1) *Kaun* (anabolism)
- (2) *Fasad* (catabolism).

With the result of these *istahala* production of energy in the form of ATP and heat takes place.

In this production of energy and heat two important factors from *Umoor-e-Tabiyah* of our body participate<sup>13</sup>.

- (1). *Naseem (Ruh)*, which is obtained from the inspired air.
- (2). *AkhlatLatifah* (refined humours or nutrients), which are obtained from the blood plasma.

When action and reaction among *Ruh* and *akhlatlatifah* takes place then the energy and heat (*hararatghariziya*) are produced. Thereby the organs of the body become able to continue their respective functions. It is why *Abu SahlMasih* has called the *ghiza* (nutriments) as *waqud* (fuel) and external air as *maddah al- ruh* (precursor of *Ruh*).

### 5.1 Mechanisms of energy productions

Any Biochemical in human body which produce energy ultimately called *Arwah*. Because the main function of *Arwah* to produce energy for various physiological functions & *Arwah* provide the substance to power.

**Major kind of Mechanisms:-**

#### a) ATP-PC

The first method or mechanism to generate energy with the help of *Arwah*, which is used by the body tissues is the process in the muscle cells which is entirely different than the mechanisms of energy generation in all other body tissues. Instead of the molecule ATP as a source of energy the muscle tissue uses creatine phosphate molecules. Creatine phosphate is also an *energy rich molecule* which has also energy rich bonds that upon hydrolysis releases energy. It provides ATP at a very fast rate but body holds limited stores of ATP-PC. Amount of Energy Produce by ATP-PC enough for about 10 seconds of very high-intensity exercise. Total amount depends on stores of PC and enzymes to convert it to ATP<sup>14</sup>.

**b) Anaerobic Glycolysis-** Glycolysis is a general mechanism that is used by many cells that possess mitochondria. Glucose is used in a process which does not use or require oxygen to proceed. Each glycogen molecule is converted into 2 pyruvic acid molecules. Only small amount of ATP (2 molecules) is synthesized in this pathway<sup>15</sup>. Starting Fuel of anaerobic glycolysis is Glucose stored in the muscle and liver in a concentrated form called *glycogen*. Glucose can be taken from muscle glycogen or transported from the blood via the liver. Amount of energy produced enough to power heavy exercise for extended periods<sup>16</sup>.

c) The amount depends on the availability of glucose and enzymes needed for energy production and the levels of lactic acid.

#### d) Aerobic (Oxidative) Phosphorylation

This pathway is probably so pervasive because it is a highly efficient way of releasing energy, compared to alternative fermentation processes such as anaerobic glycolysis. It provides ATP at a slower rate than the other systems, but is great for endurance activities. For each two electrons that pass through the entire electron transport chain (representing the ionization of the two hydrogen atoms, up to three ATP molecules are synthesized<sup>15</sup>. Starting Fuel are Fats, carbohydrates and proteins<sup>16</sup>. The amount depends on enzymes, the availability of oxygen to the mitochondria, and the availability of carbohydrates and fats. With training, high levels of intensity for very long periods of time are possible.

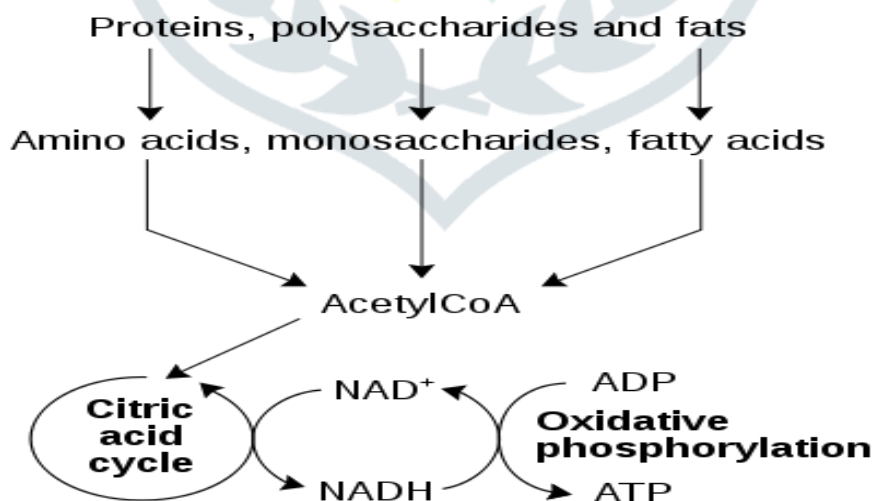


Figure 2 Major kind of mechanism of energy production

**CONCLUSION-**After discussion and interpretation of ancient and modern perspectives the conclusion is that, *Ruh* is lateef Bukhari jism (light and gaseous matter) which is mixed in blood and other fluids of body just like the air dissolve in water externally. It is a light gaseous substance, obtained from the hawa-e-Mushtanshak (Inspired air) so *Ruh* is nothing but Oxygen. When the air is inhaled through inspiration, this essence separate in the lungs and comes into contact with blood, the *Ruh* (Oxygen) comes into existence. Ancient physicians had a view that the proper functioning of 'quwa' depend upon continuous supply of *ruh*. *Ruh* burns with *akhlat-e-latifah* to produce heat (*hararat-eghariziah*) and energy. It perform external and internal respiration and all metabolic activities of the body; and maintain *hararatghareeziya*(innate heat).”It also materialistic substance of Power and Power performs all physiological functions of human body.

**REFERENCES-**

- [1] Nafis, B. 1935. kulliyat Nafisi. Daftar al-Masih Delhi, Vol. I, 72
- [2] Kabiruddin, M. 1947. Ifadah-e-kabirMufassal. Matbaislami bazar, Hyderabad Dakin, 132
- [3] Majusi, A. 1294. Kamil al Sinaat. Cairo, Vol. 1, 151
- [4] Azmi, A. 1995. Mubadiyat-e-Tib. New public press, Delhi, 121
- [5] Gruner, O.C. 1930. A treatise on the Canon of Medicine of Avicenna. Luzaca and company , London. 133
- [6] Gilani, A.H. Jami'-ul-sharahain. Kashi Ram press, Lahore
- [7] Ahmad, S.I. 1980. Al-umoor-al-Tabiya. 1st edition, sains printers, Delhi 06, 155 -156
- [8] Ahmad, T. 1997. KulliyatUmoorTabiya. Puna, 92-93
- [9] Qarshi A, *AfadiyakabeerMajmal, tarjuma-o-sharah (Translation and elaboration) by HkmKabiruddin. IdaraKitab-us-Shifa, dariyaganj, New Delhi, 2010. PP 128 129*
- [10]. Zimmer, Carl (3 October 2013). "Earth's Oxygen: A Mystery Easy to Take for Granted". New York Times. Retrieved 3 October 2013.
- [11]. [www.quora.com/What-is-the-difference-between-external-and-internal-respiration](http://www.quora.com/What-is-the-difference-between-external-and-internal-respiration)
- [13] Ahmad, S. I. 1983. Kulliyat-e-Asri, New Public Press, Delhi, 483
- [14] <http://www.actforlibraries.org/types-of-energy-production-in-the-human-cells>.
- [15] Sembulingum, K. and Sembulingum P. 2013. Essentials of Medical Physiology, 6<sup>th</sup> edition, jaypee brothers medical publishers (P), New Delhi, 197
- [16] Guyton, Arthur C. and Hall J. 2008. Textbook of Medical physiology, 11<sup>th</sup> edition, Elsevier, Logix park, first floor A 4, & A 5 sector 16, Noida- 201 301, Up (India), 836

