Question 1: Should the TSPs be allowed to have differential pricing for data usage for accessing different websites, applications or platforms?

No they should not. TSPs are simply data carriers. There are many reasons to oppose differential pricing:

- There is no differential cost to transmitting data borne by the TSP. Whether the consumer is connecting to another consumer via VOIP, or sending an email, or serving a request to a server to view a web page, the cost is always identical and simply dependent on the amount of data transmitted. Is even true that there is no real cost to transmitting data, but only enabling access, i.e. giving a continuous connection.
- They have no right to inspect the information being transmitted, which is a massive breach of privacy and tantamount to a MITM (man in the middle) attack. For example if I am sharing confidential information with a business associate, a legal representative etc, I would not wish for a 3rd party to read the contents without my knowledge or express permission. Encryption is always an option, but differential pricing can enable TSPs to employ decryption and deep packet inspection tools under the excuse of verifying if consumers are disguising their packets as a "cheaper kind" of data.
- Differential pricing is very anticompetitive because it forces consumers who cannot afford to visit more expensive sites to visit cheaper sites, which can adversely affect small and medium businesses and entrepreneurs while giving underhanded advantages to large businesses as well as TSPs, many of which nowadays are members of large corporate groups or themselves offer non-TSP services such as music streaming, instant messaging etc. Smaller businesses and entrepreneurs will not be able to afford partnerships to reduce costs to their customers, or if they are able to, the charge is still unfair because it is comparable to "double-dipping"- these companies already pay to get themselves online (server hosting, leased lines etc). On the other hand larger companies and conglomerate-TSPs are able to attract even more revenue because they changed the level playing field into an unbalanced home advantage.
- In light of the previous point, it creates confusion for consumers who are forced to make choices between TSPs not based on their quality of service but based on which sites they visit more often or based on affordability which becomes dictated by TSPs and their partners, instead of innovation in the market.
- Many TSPs, especially the major ones (Tata Indicom/Docomo, Airtel, Reliance etc.) are also ISPs which are notorious for their poor quality of broadband service and anti-consumer practices (ex. forced data caps). It is difficult to not see an anti-consumer design behind their support for differential pricing.
- By enabling differential pricing, TSPs are permitted
- From all of the above, it follows that differential pricing is anticompetitive and anti-consumer in nature.

Question 2: If differential pricing for data usage is permitted, what measures should be adopted to ensure that the principles of non-discrimination, transparency, affordable internet access, competition and market entry and innovation are addressed?

If differential pricing for data usage is permitted, no measures will ever be enough to ensure that all of the above principles can be addressed. The principles of competition, market entry and innovation will especially be adversely affected. The reasoning is explained below:

- Non-discrimination: As discussed in Question 1, differential pricing by its very nature is discriminatory for both companies and consumers alike. The only way to prevent

discrimination would be to force TSPs to let all data to be transmitted at the same price without prejudice or favour.

- Transparency: Perhaps the most easily achievable principle in the given context. TSPs could be forced to make all their partners public, and their revenues due to differential pricing as well. They should also be forced to state publicly the number of poor and other underprivileged citizens they connect to the internet with the help of their differential pricing scheme.
- Competition, market entry and innovation: The only way to address this to some extent would be to force all TSPs to be TSPs exclusively and independent of any other businesses. However, this adversely affects the freedom of a TSP company to branch out and do other kinds of business in India. Another step to take would be to force all TSPs to allow all businesses to partner with them for lower data charges for free. However, there are hundreds of thousands of businesses around the world, and the number going online grows every day. It is not feasible to expect that every business from around the world will partner with TSPs, especially for foreign businesses that may not be fully aware of the rules and regulations that need to be taken into account when partnering with an Indian TSP. They may also not have any reason (eg. small market) to partner with Indian TSPs and this would directly negatively affect the Indian consumer. Moreover, it directly disadvantages users making direct connections with each other using technologies like peer to peer file transmission. It would be absurd to think that a billion citizens could partner with all TSPs in their private capacity. Therefore there are inherent flaws with this model.
- Another important aspect to consider is the piecemeal offering of internet-enabled services (Airtel Zero, Facebook Free Basics etc). These kinds of services depend on the availability of a differential pricing model, are grossly anticompetitive, and most importantly, *do not give access to the internet*! They are simply walled gardens containing some networked services and in the unfortunate event that differential pricing is permitted, it is of critical importance that such services explicitly not be permitted in India to reduce the impact on the aforementioned principles that this answer attempts to address.

Question 3: Are there alternative methods/technologies/business models, other than differentiated tariff plans, available to achieve the objective of providing free internet access to the consumers? If yes, please suggest/describe these methods/technologies/business models. Also, describe the potential benefits and disadvantages associated with such methods/technologies/business models?

There is no such thing as truly free internet access. I do not believe that it is possible to create a win-win situation where TSPs benefit and all citizens are able to get free/low cost internet access so long as the internet operates under the aegis of capitalism in India. Once this is acknowledged, it is possible to explore steps that make internet access affordable for more people without resorting to differentiated tariff plans.

- Google Fiber's business model is probably the best alternative model to get people connected to the internet. Speeds can be tuned to match India's network infrastructure.
  - However there are some steps that need to be taken before a similar service can be implemented in a scale as broad as India's
    - The definition of broadband needs to be updated to modern standards. In 2015, the US FCC defined broadband as 25mbps down and 3mbps up. With 3G and 4G services rolled out in India, and with high data use content becoming the norm worldwide, there is absolutely no basis for India to define broadband as 512kbps. India should take 5Mbps as the minimum definition today.

        - It is of critical importance that national connectivity be comprehensively overhauled to handle high bandwidth so that in the next 5 years the definition of broadband can be upgraded to 50Mbps.
        - Access to the internet needs to be made a fundamental right. This will give more motivation and frameworks for legislators and government to implement measures to enable access for all citizens.
    - There are no real disadvantages to the Google fiber model, as that model was built on innovation in light of the poor quality service from major ISPs in the US (Comcast, AT&T, Verizon etc). The advantages are high bandwidth, and low cost to the consumer. It is important to note that Google's service is not a charity.
    - For wireless networks (3G/4G, citywide WiFi etc), free users can be given a moderate data cap in line with modern data use averages instead of a connection fee.

- An inferior option compared to the Google fiber model is providing subsidized internet access to underprivileged people
    - This model puts the burden on all taxpayers, as opposed to the TSP's paying customers like in the google model.

Question 4: Is there any other issue that should be considered in the present consultation on differential pricing for data services?

Any decision taken by TRAI should first and foremost enshrine the principles of net neutrality. Net neutrality where no kind of data is differentially priced or zero rated. Net neutrality where TSPs and ISPs are simply data carriers who are not permitted to double or triple-dip in revenue on the data being transmitted. In the previous consultation discussing OTT carriers, TSPs had claimed that OTT carriers ate into their telecom revenues, but this was never to the TSPs' detriment as it meant that data use in India rose and therefore revenues from data use made up for, if outright overshadowed their perceived losses in voice.